The challenges of implementing new human settlement in the 21st Century.

Thesis submitted in accordance with the requirements of the University of Liverpool for the degree of Master in Philosophy by Moiad Almadani

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Abstract

There are many challenges for town and regional planning in the 21st century, due to the rise in the world's population. It is forecast to be approximately two billion by 2050. In 2014, half of the world's population lives in urban areas. (United Nations, 2014, p. 7). The big task for this century is to create new human settlements to meet the challenges of this population growth and increasing migration to towns and cities. Governments need to implement policies to improve the quality of life in both urban and rural areas. There are significant challenges, with an expected increase in demand for residential units, infrastructure and transport as well as the need to create more jobs (Hall, 2011; United Nations, 2014). The overall Aim of this thesis is to analyse the concept of the new human settlement and establish a framework that can be used for implementation of the new human settlement concept. The concept of new human settlements requires the integration of sustainability principles into the planning of new settlements. It seeks to further the wider agenda of sustainable development in urban and regional planning which aims at the management of urbanisation and urban growth to achieve a balance between economy, society and the environment in any development process, while ensuring the availability of resources and choices for future generations.

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Declaration

The work in this dissertation was carried out in accordance with the Regulations of the University of Liverpool. This work is my own original research, except where acknowledged in the text. No part of this thesis has been submitted for any other degree. The dissertation has not been submitted to any other University.

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CHAPTER 1
Introduction to research background

1.1 Introduction

'New human settlement' is an umbrella term that incorporates different types of new settlements that are used to create new communities – such as garden cities, new settlements, new villages, new towns and new cities. The overall aim of this thesis is to analyse the concept of the new human settlement and establish a framework that can be used for their wider implementation.

There are many challenges for town and regional planning in the twenty-first century, especially as a result of the rise in the world's population. It is forecast that the latter will be approximately eight billion by 2050. In 2014, half of the world's population lives in urban areas. By 2050, about two-thirds will reside in urban areas; as 'the world continues to urbanise, sustainable development challenges will be increasingly concentrated in cities' (United Nations, 2014, p. 7). A significant task for this century is to create new human settlements that offer jobs and houses to meet the challenges of this population growth, as well as the increased migration to towns and cities. Governments need to implement policies to improve the quality of life in both urban and rural areas. These are significant challenges; associated with such migratory patterns, an increase in demand can be expected for residential units, infrastructure and transport as well as the need to create more jobs (Hall, 2011; United Nations, 2014).

1.2 Background

1.2.1 The international circulation of planning ideas

The idea of developing new human settlements is an example of a planning idea that originated in a number of countries and has, thereafter, been frequently transferred and applied to others. For this reason there is value in approaching the research subject from a comparative perspective. There is much literature in the fields of planning, public policy, geography and international development studies, which consider issues of comparison and policy 'transfer' in relation to urban planning (UN-Habitat, 2009; Sykes, Lord and Jha-Thakur, 2010; Healey, 2012). On a more general level, it has also been argued that concepts and theories are able to travel, provided that they are sufficiently abstract so that they are unhindered by contextual attachments (Maloutas, 2013). Many planning systems are in place in different countries, which have been imposed or borrowed from elsewhere. In some cases, 'foreign' ideas have not changed significantly since the time that they were imported (UN-Habitat, 2009). The process of the abstraction of concepts and ideas contributes to the process of their international circulation and has some advantages in the field of urban planning. Though the ultimate goal may be increased clarity in the understanding of the concept, a high level of abstraction helps 'comparison and generalization and leads, among other things, to overcome spatial barriers' (Maloutas, 2013, p. 2). A high level of abstraction may thus make concepts circulate more easily, whereas concepts that are less abstract may be more limited by particular contextual parameters.

There are concerns, however, as to the application and effect of some of the ideas in the field of planning that have been passed on from one place to another. That said, some ideas are established and applied locally and then become a global idea when successfully applied in different environments. This raises a number of questions including; what is involved when a planning idea or approach from its original 'home' is extracted; or how it is applied in another place, given similar characteristics and different circumstances (Healey, 2012).

As UN-Habitat (2009, p. 51) notes:

> Planning systems and urban forms are inevitably based on particular assumptions about the time and place for which they were designed; but these assumptions often do not hold in other parts of the world and thus these systems and ideas are often inappropriate in the context to which they have been transplanted.

In analysing how ideas travel in the planning field, it is important to address analytical questions such as 'Will this idea work here?' We also need to be able to address more normative questions, such as: 'Should this idea be "imported" at the present moment in this situation? Who and what could it promote? Who and what might be harmed? What can we assume to be 'natural' and 'universal' in human behaviour? And how do we go about governance activity with respect to socio-economic development, spatial organisation and land development?' (Healey, 2012, p. 201). Such questions are important as there are different mechanisms through which ideas and approaches are transferred from one place to another. UN-Habitat (2009, p. 201) observes two 'categories' of transfer, the 'first category being 'imposition' (through authoritarianism, contestation or consensus) and the second category being 'borrowing' (through synthesis, selection or

uncritical reception)'.

Furthermore, two methods for the transmission of ideas have been identified. The first method is the application of a given theory or idea in a similar environment, without any significant change in how it was applied in the country of origin. In such cases, it has been argued that it is good to appreciate the weaknesses and whether any mistakes were made when applying the idea in the country of origin (Healey, 2012). The second way is when an idea is applied, but in different circumstances and different environments. As Steinhauer (2011, p. 484) comments, 'these circumstances do not only include visible aspects, such as administrative or political systems, but also underlying aspects such as traditions, norms and language'. In a situation like this, there has to be a method of learning from past experiences or best practice, as transnational policy transfer is a learning process (Steinhauer, 2011). In addition, there is a need to study the dimensions of the idea in different circumstances to determine 'what could work here or not', and its positive effects (Healey, 2012, p. 190). In assessing this, as Healey further notes, it is important, first, to study the idea in the country of origin and the characterisation of the idea and its development through application and practice. Secondly, the environment where the idea is to be applied needs to be understood so that the idea's appropriate aspects can be developed so that it is applied successfully.

This may lead to a change whereby the basic concept is transformed from an idea which was originally applied in one local context, into something with more universal potential that can be applied in different places. As Steinhauer (2011, p. 483) observes:

> When it comes to international planning aspects, cross-border comparisons become essential. In order to adequately analyse these comparisons in a structured and comparable manner, adequate methods of investigation are required.

These studies provide important developments in the field of planning through new ideas and also help in the review of the ideas in place, which may need re-interpretation or redrafting (Healey, 2012). Maloutas (2013, p. 3) argues that:

> processes of abstraction and theory building that lead to concepts and theoretical constructs that are only seemingly disentangled from their attachment to specific social, economic and environment contexts.

It is also important to appreciate the nature of the power relationships between the exporting and importing countries, which can be a major determining factor in the transfer of planning ideas. In the past, for example, colonialism and conquest led to the imposition of foreign planning systems in certain countries. As UN-Habitat (2009, p. 51) has noted, travelling planning consultants, politicians or other influential people, or scholarly articles and books, have also played a role in the diffusion of planning ideas:

> Transmission of ideas in town planning have been by colonial governments, educational and scientific institutions including lecture tours and international conferences, professional associations and journals, and international development agencies and consultancies.

This process of diffusion was never smooth or simple; the ideas themselves were often varied and contested, and were articulated in different ways within the contexts to which they were imported (UN-Habitat, 2009). Maloutas (2013, p. 12) reflects on some of the issues relating to the circulation of ideas, noting that:

> Half-way de-contextualization ultimately leads from contextually embedded and context dependent concepts, to notions claiming broader applicability that eventually turn to fuzzy, all embracing devices, with questionable rigor, when the importance of lingering contextual attachments is forgotten or overlooked.

1.3 Rationale for the thesis

1.3.1 The need for the new settlements concept

Planners, researchers and many governments believe that new human settlements can be a solution, which has been advanced to help deliver this at different times and in different places. These have been proposed as a valuable urban planning tool which can deal with a range of urban problems, including urban overcrowding, limited availability of development land, low living standards for the population, and the high demand for housing, services and infrastructure. New human settlements are also seen as having a role to play in addressing wider spatial planning goals, such as the need to create opportunities for economic growth and the reduction of poverty and social inequality, and to mitigate the negative effects of development to foster compatibility between the environment and the economy.

Several countries across Europe and Asia are in the process of developing new human settlements as a way to create new housing and new communities that respect the principles of sustainable development. There are many challenges faced by governments to apply the concept of new human settlements. Tang (2010) argues that it is important to gain a better understanding of the new human settlement concept and also help governments to implement this concept by developing frameworks and guidelines for their delivery.

1.3.2 Shift in the concept

The notion of developing new human settlements has been promoted at various times and in various places throughout history. In 1898, for example, following the rapid industrialisation and urbanisation of Britain in the nineteenth century, Ebenezer Howard published his vision of a new form of settlement which would achieve a balance between the core city (town) and country life. He termed his proposed new human settlement the "Garden City", and over the subsequent century this idea had a huge influence on urban planning thought, notably on how planning could help create what today might be termed a new human settlement. However, the original idea of the garden city has evolved and has frequently been modified since Howard's time. Gisela (2007, p. 109) notes that 'the history of the international Garden City Movement is a history of very different interpretations, selective adaptations, and numerous changes through international transfer'.

This provides a strong rationale for conducting research, which examines the transfer of ideas about new human settlements from one country to another (issues about the circulation of planning ideas are discussed in more detail in Section Three below). It is also the case that the problems that new human settlement concepts such as the garden city concept have been mobilised to address, have varied over time and in different places. In the nineteenth century, for example, the garden city was seen as a way of addressing urban living conditions such as clean water, basic sanitation and decent housing (Clark, 2003).

In the twenty-first century, although many developed (and, increasingly, developing) countries have high quality infrastructure and housing, many places face issues relating to the growth of car-dependent suburbs, overcrowded industrial cities and rapid suburban sprawl. Faced with such challenges, planners have looked to the development of new settlements that provide opportunities to achieve a better balance between different aspects of sustainable development. This has included a consideration of the potential of a new form of garden city, which balances these elements in a similar fashion to how Howard's original concept sought to balance the advantages of core city and country life. As Hardy (2005, p. 391) notes, whilst garden cities have a long and fascinating history in the UK and elsewhere,

> a more challenging agenda is to be found at the interface with contemporary needs. Garden cities are of more than historical interest and are examined increasingly in relation to modern urban problems.

The concept of new human settlements requires the integration of different type of new settlements. It seeks to further the wider agenda of local government in urban and regional planning, which aims to utilise the management of urbanisation and urban growth to achieve a balance between economy, society and the environment in any development process, while ensuring the availability of resources and choices for future generations. For this reason, Tan in (2010) have argued that there is a need to integrate sustainability into the process of the planning and development of cities. One tool which might be used in applying the concept of sustainability more

fully in the planning and development of cities is the development of sustainable new human settlements (OoiGiok, 2005).

1.3.3 The need to learn from past experience

In the past, researchers have evaluated garden cities in the context of discussions of urban form, or the evolution of the history of urban planning. However, increasingly, the garden city is again being recognised as a concept whose values can be re-interpreted (IAU île-de-France, 2013). Over recent decades, a range of other kinds of new human settlements have also been developed both conceptually and in practice, often promoted as a means to deliver more sustainable urban planning and development (Tan, 2010). These include 'eco-cities' and 'green communities'. Given this range of concepts and experiences in developing new sustainable settlements, Tang (2010, p. 61) recommends that 'future research and empirical studies will be necessary to analyze planning theories in different cities. These studies can then be summarized and added to the established planning theories'.

In England, the Department for Communities and Local Government (2006, p. 7) recommended future research in three areas. These are, first, 'other types of large scale development the expanded towns, and new towns outside of the new towns programmed in England'; secondly, new towns internationally; and, thirdly, 'comparison with other towns sharing the same regional context'. They also recommended a further study that 'pulls together current best practice in terms of development' (Department for Communities and Local Government, 2006. p 7). In 2011, the Town and Country Planning Association in England argued that there was a need for

detailed research to inform the development of new settlements:

> A comprehensive appraisal of the New Towns programme should fully assess its successes and failures as well as providing lessons for today's new settlements. Without this appraisal it will not be possible to fully develop an understanding of how to create the resilient, attractive and sustainable communities of the future (p. 5)

1.4 Research scope

This thesis focuses on the planning and development of new human settlements. The purpose of this research is to reach a better understanding of the concept of the new human settlement, as well as to explore the best practices used in developing these. A further goal is to summarise the most important lessons within the process and to develop a framework which can be used by governments in implementing new human settlements. The research examines the planning of new human settlements from two main perspectives, both theoretical and practical. This research is organised around three important themes:

- First, there is a need to identify the challenges which planners are facing in the process of applying the theory of new human settlements.
- Secondly, it is necessary to try to identify some successful practices, to learn from past experiences and avoid repeating previous mistakes in the implementation of new settlements.
- Finally, and as an outcome of the other themes, there is a need to assess how any disparity between theory and practice might be reduced.

1.5 Aim, objective and research questions

1.5.1 Research aims

Informed by the contexts and concepts described in preceding sections, the overarching aim of this research is:

To analyse the concept of the new human settlement and establish a framework that can be used for the implementation of the new human settlement concept.

This aim is supported by two overarching research objectives and five sub-objectives:

A. To develop a better understanding of the concept of new human settlements by identifying the core and contextual principles for the new human settlement concept and identifying the different types of new human settlements.

B. To consider how the idea of new settlements circulates as it is transported from one country to another; to analyse selected examples of new settlement development in England to establish the main changes that happen to the new human settlement idea when the theory is 'shipped' from one context to another; to focus in particular on a comparison of current conceptions of new human settlements and their application in England and Saudi Arabia.

The five sub-objectives are presented below:

1. To examine how local authorities can implement the new human settlement concept locally, by analysing the implementation processes in England.

2. To explore the challenge of implementing the new human settlement concept in different contexts, by analysing the implementation processes in Saudi Arabia.

3. To identify the experience and lessons gained by local authorities in England that can be used as guidance in Saudi Arabia, by summarising any learning points and good, or less successful, practices that may be identified from England's experience.

4. To prepare recommendations that can be used as guidelines for implementing the new settlement concept at the local level in Saudi Arabia. These recommendations will be useful for local government and the private sector in terms of implementation processes.

5. To review critically the data and conclusions of the research on the interpretation and implementation of the new human settlement concept in different places as an example of how planning concepts can experience a 'shift' of meaning when they are used in places that have different social, environmental and economic conditions from those where a concept was originally developed.

The completion of the objectives outlined above will permit the thesis to respond to a number of more detailed research questions. These are outlined below.

1.5.2 Research questions

A. Is it possible to formulate a new type of new settlement in one part of the world and establish it in another?

B. What are the core principles of the new human settlement concept in the field of town planning and how might local governments implement this concept?

Five sub-objectives supporting the research questions

1. How can local authorities plan for the implementation of the new settlement concept?
2. What are the challenges that face local authorities that try to borrow the new human settlement concept and plan to implement it?
3. Are there any lessons that the experience of local authorities in England can teach other authorities in terms of implementing the new human settlement concept?
4. How can these lessons be used as guidance for the implementation of the concept in Saudi Arabia?
5. What are the recommendations of this research?

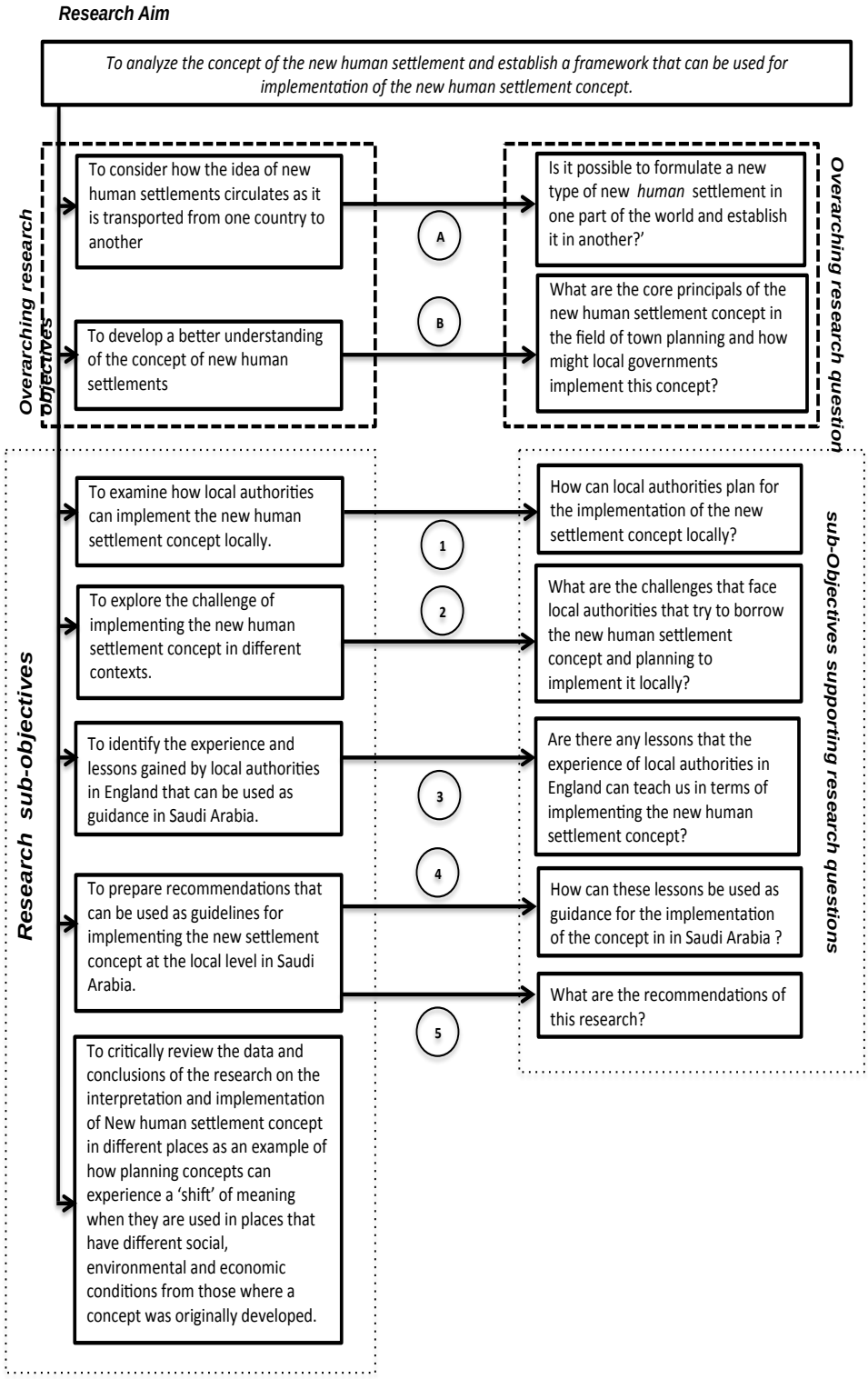

Figure 1.1 the research aim, objective and research questions

1.6 Research methodology

As this is exploratory research, a qualitative method has been applied in this study. The qualitative approach is used because the enquirer is seeking to make knowledge claims based primarily on constructivist perspectives on the multiple meanings of individual experiences. The research applies three ontological, epistemological and methodological assumptions:

1. ***Ontological assumption:*** The perception of the new human settlement will be moulded by the experiences and interpretations of the practitioners and participants involved in the planning of new settlements.
2. ***Epistemological assumption:*** An understanding how the new human settlement is deployed at a local level will emerge from an interaction between the researcher and the practitioners and will inform a framework that can be used as guideline for the implementation of new human settlements.
3. ***Methodological assumption***: Various perceptions will emerge from interactions between the researcher and practitioners, primarily through the use of interviews as a method to discuss the challenges of applying the concept of new human settlements.

A general strategy of qualitative research has been applied in the case study. This was pursued through the use of qualitative research methods including open-ended questions, interview data, observation data, documentary data, audio-visual data, and textual and image analysis.

The following section outlines the structure of the thesis, which responds to the research aim, objectives and questions presented above.

Structure of the thesis

The thesis is divided into eight chapters.

Chapter One: Introduction to research background

This chapter has presented an initial introduction to the research, the research background and research scope. In addition, in this chapter, the research aim, objective and questions have been discussed.

Chapter Two: Literature review

This chapter explains new human settlements based on the reviewed literature and analysis of the new settlement concept. It also considers the historical development of theories of planning which have been explored and help to define the idea of new human settlements. In addition, it explains the main ideas which characterise this kind of development and describes the advantages of its application. Additionally, it reviews the literature and further analyses it to reach a better understanding of the concept of new human settlements. This understanding helps in the development of a theoretical framework, which is used in guiding the research.

Chapter Three: New human settlement concept and implementation

This chapter discusses the new human settlement concept and the challenges of implementing them, in addition to the role of the social, economic and political factors that shape a particular application of the concept to a local area. In this chapter, principles for new human settlement are divided into

core principles and contextual principles in order to outline the key factors that affect the implementation of the concept and the key challenges.

Chapter Four: Research methodology

The research methodology is outlined in this chapter, covering the philosophical assumptions, strategies of inquiry and methods used. The research adopts a broadly constructivist paradigm and qualitative methods, and focuses on the planning process and master planning of new settlements (with an emphasis on land use and transport).

Chapter Five: New human settlements in England

This chapter investigates a case study of England as a whole, because it is one of the countries which has been important in originating the idea of developing new human settlements in the modern era of planning. Such thinking has also been 'exported' from England to other places and contexts. More recently, there has been a renewed interest in the development of new settlements in parts of England The chapter surveys, through cases studies of recent attempts to build new settlements in England, how the new human settlement concept can be implemented at a local level, and the challenges that have been faced by local government and what lessons can be learned from this experience.

Chapter Six: New human settlements in Saudi Arabia

This chapter presents a case study of Saudi Arabia as a country that has imported the concept of new human settlements and considers how the new human settlement concept can be implemented at a local level. Consideration is given to the impacts in terms of the environment, economy

and society, in relation to land use and transportation. From the assessment of the process and outcome of the new human settlement policy, some influential factors and significant planning mechanisms are identified in order to understand the policy's application. In this chapter, challenges in implementing the concept of new human settlements in Saudi Arabia are analysed in detail.

Chapter Seven: Discussion of results

In this chapter, the results of the case studies are discussed and compared with other examples so that an appreciation of the application of the new human settlement concept can be understood in many different contexts. Despite obvious contextual differences, some similarities in the approach to new human settlement planning are found.

Chapter Eight: Conclusions

This chapter presents an overview of the thesis and its key conclusions are discussed. The unique contribution of the thesis to existing knowledge is articulated, as well as the limitations and constraints of this research. Finally, it considers recommendations for further research.

CHAPTER 2

Literature review

2.1 Introduction

This chapter provides the theoretical framework for new human settlements based on a literature review and an analysis of the concepts of new human settlements. The chapter also considers the historical development of a number of theories of planning and, through so doing, helps to define the idea of new human settlements in the twenty-first century. This understanding helps to develop a theoretical framework, which guides this research project. Finally, the chapter explains the main ideas that characterise this kind of development, and assesses the advantages of its application.

This chapter is divided into six sections. Having outlined the structure of the chapter, the second part. Thereafter, focuses on sustainable development. the third part discusses the challenge to sustainability in urban planning Section Four, The concept of sustainable human settlement whilst Section . ive considers new human settlements. In Section Six, the concept of sustainable human settlement is explored. the final section concludes the chapter.

2.2 Sustainability

Within this thesis, sustainable development refers to the fact that ‘humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs’ (United Nations World Commission on Environment and Development [UNWCED], 1987, p. 24). There are three

different aspects to sustainability: social, economic, and environmental. These dimensions are the basic elements of sustainable development (Munier, 2005; Basiago, 1999).

2.2.1 Environmental dimensions of sustainability

In terms of environmental sustainability, MacKerron and Moderato (2008) describe how life satisfaction and air quality in London connects ecological and economic measurements with social aspects. Generally, ecological sustainability can be described as 'environmental protection' (Munier, 2005, p. 10) and refers to growth and development should be not negative impact on environmental. Anderberg (2000) focused on the effects of heavy industry on the environment in central Europe, and in so doing to outline the impact of this on the environment . In like manner, Priewasser (1999) analysed different models of transportation routes and adopted environmental and psychological theories to examine transportation and its impacts on the environment, concluding that human behavioural of using transpiration change can be recognized and useful for decision‐making process of choosing a certain transportation plan. Grimm et al. (2008) also offered an analysis of various environmental problems in the context of urban planning and suggests that research challenges and environmental problems must be attempted at local, regional, and global scales. Ekins et al. (2008) further argue that ecological sustainability builds on scientific evidence of environmental problems and offers an analysis of those problems.

In commenting on methodological considerations, McHarg (1969) advocated conducting studies in interdisciplinary fields to find ways in

which to deal with the elements of environmental and natural resources as well as the process of urbanisation. Since then, his overlay technique has been widely used. Carson (1962) also contributed to the developing academic debate and processes by creating methods for peaceful co-existence between the environment and the process of urbanisation. In the 1960s, the International Biological Programme studied Brussels, and UNESCO's Man and the Biosphere Programme began urban ecosystem projects in Hong Kong, Tokyo, Sydney and Rome. In 1987 there was the Brundtland Report on Environmental Protection and Sustainable Development (Madaleno and Gurovich, 2004). In 1995, an important piece of research was funded by the UK's National Environment Research Council, which focused on environmental issues inside and outside urban areas (Walbridge, 1998; Nilon et al., 1999). Together, these writings are important because it is useful for Identify environmental issues that can benefit planners in making development decisions, whether the expansion of human Settlements .The biggest challenges around ecological and environmental issues that concern researchers are philosophical and methodological ones (Adams, 1935; Tansley, 1935; Lindeman, 1940; McHarg, 1969; Ludwig et al., 2001). In the twentieth century, Marsh (1907) encouraged planners to take environmental problems into account and to try to maintain green spaces and build parks to take advantage of them to reduce pollution and provide areas for living areas and the integration between the housing and the environment. Geddes (1915) was the first person to work to find a way to make a regional planning system that was guided by ecological principles. His idea was used by Abercrombie (1945)

in the Great London Planning Initiative.

A theoretical perspective on ecological sustainability was described by Xu et al. (2008). In so doing, the authors explain ecological sustainability through the suggestion that the urban ecological system connects social-economic-natural/ecological aspects to a complex system. It follows that it is this system that must be sustainable. In order to analyse this, the authors used the concept of the "carrying city" (an example of which is how much pollution a city can carry) to develop a theoretical model that can be used in analysing urban ecological sustainability. This theory can be seen to build upon the utopian vision of the city, which connects all aspects of sustainable development (Xu et al., 2008).

Blewitt (2008) offers a general overview of sustainability and sustainable development and also the ecological dimensions of those terms. Blewitt divides the actors who define sustainable development into four groups: market liberals; bio-environmentalists; institutionalists; and social greens. These groups have different orientations and policies on the subject of sustainable development. Blewitt (2008) suggests that to focus only on ecology is not a solution because environmental problems can only be solved when they are addressed in conjunction with social problems.

2.2.2 Social dimensions of sustainability

Chan and Lee (2007) connect social sustainability with urban design in an urban planning context and note how urban social sustainability helps to improve the wellbeing of this generation while preserving the rights of future generations. There is a need to focus on social problems such as

poverty, social isolation and unemployment and inequality Because it can not be a sustainable community, which suffers from these social issues (Ekins et al., 2008; Partridge, 2005). Social sustainability can operate on a general or basic level and thus there is a need to study the relationship between social and environmental degradation (Basiago, 1999).

According to Blewitt (2008), people have less power in the past to determine their own situation. Sustainable development cannot be realised without a clear understanding of the problems of communities and the value of community participation in decision-making (Bell and Morse, 2006). However, there are few scientific models and conceptual frameworks for analysing social sustainability because the majority of research is developed by policy makers, especially within the public sector (Partridge, 2005). Partridge argues that social sustainability has been taken less into consideration by scientists and policy makers than economic and ecological sustainability. It follows, as he additionally notes, that 'the conceptual framework for social sustainability is widely acknowledged as underdeveloped' (Partridge, 2005, p. 6).

2.2.3 Economic dimensions of sustainability

Economic sustainability is a process that involves growth in profits and job creation in order to develop the local economy through higher incomes for workers, investment in local resources, and the use of more efficient technologies. It is also a process that must take into account progress and growth as well as the continued availability of resources and jobs for future generations (Munier, 2005; Ekins et al., 2008). Economic sustainability can thus be defined as economic growth and economic progress, although, as

Munier (2005, p. 17) states, ‘economic growth does not necessarily mean a better living’.

Whilst economic aspects are analysed using theories from classical economics, they have now also become dependent on new technologies, which may reduce negative environmental impacts while also helping economic growth to continue (Blewitt, 2008). In addition, economic development must benefit the development of poorer families in the community through the creation of enhanced employment opportunities. This theoretical framework comes from the development theory in economics (Basiago, 1999). In theoretical terms, the four-capital model is the most important because it combines different aspects of sustainable development from an economic point of view and helps to evaluate economic development in urban areas or cities through analysis based on the flows of benefits in a sustainable way (Ekins et al., 2008). In terms of sustainable development, this means

> meeting human needs and increasing quality of life (through consumption, satisfying work, good health, rewarding personal relationships and well-functioning social institutions, and the full range of environmental goods and services) may be regarded as resulting from the flows delivered by the capital stocks. Doing so sustainably requires that these capital stocks are maintained or increased over time (Ekins et al., 2008, p. 66).

2.2.4 Sustainability in urban planning

In urban planning, there is some ambiguity with regard to the theoretical notions of the definitions and interpretations of sustainable development. This creates a wide range of interpretations, which can lead to problems. Indeed, it is hard to see what sustainable development truly is (Jahnke and Nutzinger, 2003).

Sustainable development strategies focus predominantly on the environment or the economy, but there is a lack of focus on the social problems of poverty, social isolation and crime. Transferring sustainability from a global perspective to a local one brings many challenges. This is because, as Zuindeau (2006, p. 461) writes, ‘the question is knowing to what extent, and in particular below which spatial level, non-sustainability is justified in terms of the sustainable development of a larger territory’. he claim that plans at local level are the best solution to global problems. However, there are many problems that cannot be dealt with at this level, and national solutions are also needed (Zuindeau, 2006). The current economic system encourages competition between cities and regions, but a more sustainable system that aim for social justice and integration between cities and regions is needed As Zuindeau (2006, p. 468) speculates, ‘does sustainable development demand a change in an economic system or a change of that economic system?’.

2.3. Challenges to sustainability

2.3.1 Capitalism

Sustainable development is directly linked to Western societies, but it does not take into account the problems in Third World countries or marginalised groups. Criticising this, Baeten (2000, p. 71) states that ‘capitalism does not solve environmental contradictions, but shifts them around the globe’. Concurring, Foster (2002) suggests that environmental problems cannot be solved by capitalism, and that what is needed is a shift in the economic system. These opinions build on that proposed by Basiago (1999), who focused on the importance of linkage between sustainability in the

economy, society and the environment in urban planning, whereby economic growth represented through employment growth must not only not harm natural resources, but also allow them to renew themselves. Foster (2002) also notes that sustainable development includes work that increases production, achieves profits and economic prosperity and provides equal access to economic opportunities without restricting freedoms or fulfilment of social needs. All of these things must happen without conflicting with environmental needs if sustainable development is to be achieved.

2.3.2 Neo-liberalism

Another perspective of sustainable development centres upon its connection to the concept of neoliberalism. The shift from a social- and environment-centred concept to one that is more economy-centred is connected to the emergence of neoliberalism in a globalised economy. This can also be linked to the criticism mentioned by Foster (2002) and Beaten (2000).

One of the main events where sustainability was turned into a neoliberal project was at the Rio Earth Summit conference of 1992, where Local Agenda 21 was created. This event shifted discussions of sustainability from a critical analysis of the global capitalist system to one of local and urban development (Blewitt, 2008; Keil, 2007). Furthermore, the Rio declaration partly promotes the modernisation of local environments in order to create a better environment. What was not addressed, however, was that globalised neoliberal economics and free trade impact negatively on cultural and biological diversity, rather than maintaining them (Blewitt, 2008).

Sustainable development has some negatives, but it also has many positives,

such as community participation in decision-making and social justice (Raco, 2005). As Krueger and Gibbs (2007) observe, neoliberalism has a significant influence over decision-making and has greatly affected agendas in Western societies. Sustainable development has thus become an important requirement and governments want it to be applied in these communities (Krueger and Gibb, 2007).

That said, sustainable development can be seen as an undemocratic concept (Baeten, 2000). This is because it cannot be achieved without the involvement of communities in decision-making, and urban planners and decision-makers must have an in-depth understanding of problems within communities (Bell and Morse, 2006). Commenting further, Swyngedouw (2003) notes that there are some development policies that have negative effects on communities. Baeten (2000) argues that the complexity of transportation planning and the different conflicts are not acknowledged, but covered up by the use of the term 'sustainable development'. In addition, Baeten (2000) suggests that decisions are made in an undemocratic way and therefore the needs of marginalised groups are ignored. This is an assertion evidenced by the author by reference to the construction of a new highway between two small towns in Belgium.

According to Baeten (2000), the concept of sustainability can be seen as a political one. One of the perceived problems in decision-making is the domination of men and the marginalisation of women, and also the fact that many of the concepts of gender are missing (Buckingham, 2007). She concludes that:

> Changing legislation and policies alone are not enough to address

> social problems and economic prospects to address these problems. We need to paraphrase both legislation and policies to operate on the consideration of society and the environment in a balanced manner and synaptic and not separately (Buckingham, 2007, p. 90).

Campbell (1996) believes that the biggest challenge to sustainable development is the conflict between social and environmental aspects and economic factors. He believes that, in many cases, the tendency is to focus on the three dimensions separately, and that this is divisive. Instead, he advances that a holistic view needs to be taken.

2.3.3 Facing challenges by redefining the sustainability concept

It may be possible to redefine the term "sustainable development" in a specific region or city in a way that conforms to the characteristics of the community (Bell and Morse, 2006). However, all definitions are consistent with a set of principles agreed by researchers (Gibbs, 2000). Those principles are quality of life (including and linking social, economic and environmental aspects), care for the environment, thought for the future and the precautionary principle, fairness and equity and participation and partnership (Gibbs, 2000).

2.4 The concept of sustainable human settlements

2.4.1 Defining the vision

Human settlements are defined as cities, towns, villages, and other concentrations of human populations that inhabit a given segment or area of the environment. They are associated with numerous and complex environmental, pollution, and living condition problems for planning and management professionals (UN, 1983). In 2009, the United Nations assessed the effectiveness of urban planning as a tool for dealing with the

unprecedented challenges facing twenty-first century cities and for enhancing sustainable urbanisation. The UN-Habitat Sustainable Human Settlements Programme has been promoting this concept since the early 1990s witch led to spread many practices to try to guide the settlements to become more sustainable. As Simon (2011, p. 4) observes, sustainable human settlements are defined in

> four rather different ways: (i) to describe a sizeable mixed-use new sustainable development, which is not a direct urban extension; (ii) attached to the name of a particular area of (or extension to) an existing city which has been or will be developed or retrofitted in a sustainable way; (iii) attached to the name of the city as a whole, to denote an eco-initiative in one particular area of that city; (iv) by local authorities, as an umbrella label for various sustainability initiatives which are taking place across a city (which do not necessarily involve building work).

2.4.2 The origins of the sustainable human settlement concept

The concept of sustainable human settlements was borne out of one of the first organisations to focus on sustainable development, Urban Ecology. This group was founded by Richard Register in Berkeley, California, in 1975 and he remains a key researcher in the theory and practice of sustainable human settlements. Urban Ecology hosted the first international eco-city conference in Berkeley in 1990 aims to outline some key principle for sustainable human settlements. Register's work may also be seen to have followed on from that of Howard (1946), who proposed fundamental theorems to limit urban growth and control the sustained growth of the cities by augmenting the sizes of urban units, and that of Mumford (1961), who emphasised that cities follow a cycle of growth and decay, from polis to metropolis to megalopolis and finally to necropolis. In 1961, Jacobs focused on urban forms, criticising the contemporary planning models that had

destroyed many existing cities, and advancing a new way of building modern cities to encourage pedestrians to use streets and neighbourhood contacts to support the local economy.

Yanitsky (1981) described sustainable human settlements as an ideal model because they provide the highest levels of cultural and historical understanding. In the same period, Mumford and McHarg (1983), who are writers rather than planners, also played a central role in the development of the sustainable human settlements concept. However, they sought a different implementation of the sustainable human settlements idea. Engwicht (1992) points out that the way to a sustainable human settlements world where people can move about by improving the existing transportation system and changing their daily behaviour to reach the goals of a sustainable city.

In 1997, an ecological planning perspective combining urban and environmental planning was explored by Archibugi. This was a timely development because, as Tang (2010) remarks, there was increased interest in sustainable development to find solutions to environmental, social, and economic problems. These problems were particularly prevalent in developing countries, where major cities suffered from issues relating to urbanisation (Arreguin, 1996; Goldenstein, 1998; Robles et al., 1999; Baykal et al., 2000; Ren et al., 2003).

Commenting upon such phenomena, Register pointed out that, in order to understand the effects of urban development patterns on ecological conditions, it is necessary to analyse the interaction of ecology with the

human environment in an urban area. Register (2006) also believed that planners could use urban design strategies and new building materials as a tool to promote a healthy, biodiverse, urban ecosystem. This stance concurs with the work of Roseland (1997), who describes the concept of sustainable human settlements and brings the different aspects of sustainability together. In contrast, the concepts of urban sustainable development models presented by Haughton (1997) are concerned with local sustainability. The concept of a sustainable human settlements model is different from classic models in urban planning since it offers principles of sustainability in the design and function of cities and is a model that helps to understand sustainability and contribute to changing the behaviour of society to conserve resources and reduce consumption.

There is no universally agreed definition, but there are some views that try to explain this concept. The most important are summarised in the rest of this section.

Roseland (1997) believes that humans are capable of building in a way that provides an acceptable standard of living without having a negative impact on ecosystems. It follows, therefore, that the sustainable human settlements concept is a comprehensive idea that encompasses transport, health, housing, urban planning, development, energy, economy and social justice. It aims to reduce the use of vehicles through the development and use of land that includes community areas of multiple use within walking distance, whereby people actually change their behaviour and way of life – for example, by living in communities targeted for pedestrians and the use of public transport (Blassingame, 1998). However, the concept of a sustainable

human settlement must move beyond purely physical aspects in order to be successful, and accordingly must include economic and social aspects (Camagin, 1998).

Sustainable human settlements reduce both the demand for transport and pollution levels. They provide an environment suitable for the community with green areas and open spaces for residents. The idea behind sustainable human settlements and the green community addresses the core concept of sustainability and redefines wealth in balance with the natural world. As Haughton (1997) advances, there is a need to campaign for, and stimulate, the comprehensive application of the concept of sustainable human settlements. Embodiments of sustainable human settlements are not easy to achieve, but they still present a basic idea of how cities should develop and what could be done to help ensure a better – more sustainable – future. The concept of sustainable human settlements means restoring damaged urban environments, revising land use and promoting urban greening projects. As Roseland (1997, p. 201) succinctly surmises, ‘eco-cities, or sustainable communities, represent a goal, a direction for community development – not simply a marketing slogan’.

2.4.3 Sustainable human settlement in the twenty-first century

Egger (2006) describes a model for how sustainable human settlements could be achieved. Due to the complexity of cities’ systems, an effective sustainable city model must differ from city to city, depending on the specific locations’ different variables, such as politics, culture, history, climate and so forth. Nevertheless, the core of the sustainable human settlement model is the condition that there should be a high quality of life

over time, which is not achieved at the expense of other communities. A human settlement is sustainable if it achieves equal access to services for its residents, has its own identity through beautiful architecture, uses resources efficiently, and reduces its negative impact on the environment. It should also have a cultural diversity and be structured and managed in a way that supports both society and the environment (Egger, 2006).

It is critical to measure the efficiency of resource use and the effect of transport emissions in order to understand their environmental impact (Egger, 2006). Tang (2010) concurs, adding that it is essential to reform urban layouts and structures. Indeed, Tang (2010) suggests that it is time to make dramatic changes in traditional urban planning in order to reach the goal of creating sustainable human settlements. Minimising the demand for land, for example, is a direct way to reduce urban sprawl.

According to Register (2002), sustainable city zoning is a tool for the polycentric restructuring of car-dependent cities by increasing the density around centres and recovering the natural and agricultural landscape in interspaces. The strategies for building within such zones are different because cities and communities vary, particularly in size, scope, needs, capacities, resources, and commitment. There is no standard label for sustainable human settlements (Tang, 2010).

In sustainable human settlements, the human habitat is designed with the recognition that human settlements, like the earth, are a closed system, whereby end-of-lifecycle detritus pollutes the system, rendering it incapable of supporting new life. Most definitions of sustainable human settlements

underscore the environment, economy and society (or quality of life) provided by a place (Kline, 2010). To achieve this vision, sustainable developments tackle environmental issues on a broader scale, rather than taking a piecemeal approach. Creating sustainable human settlements therefore requires several mechanisms, including careful management of local resources, long-term planning, establishment of an ecologically sound set of institutions, different land uses, and environmental, social and economic policies (Robinson and Tinker, 1998).

Eryildiz and Xhexhi (2011) searched for a method to calculate the level of liveability and ecology within cities. Their results show that a liveable city should be in pursuit of overall development and ecological progress. The ecological city needs to make up for the inherent weakness of constructing a city in a healthy ecological environment. As a result, they argue that the concept of sustainable human settlements is a brilliant idea with a good principle, but that it is complex and difficult to implement. In addition to the planning dimension, Jabareen (2006) describes sustainable human settlements in terms of their relationships with sustainable urban forms. The sustainable human settlement might be viewed as a ‘formless’ city or an ‘eco-amorphous’ one (Jabareen, 2006). Drawing from several design approaches, including the eco-village, the solar village, the environmental city, the green city and the sustainable city, Jabareen (2006) explains that the most distinctive concepts of sustainable human settlements are greening and passive solar design; however, providing more green space that results in lower density is a factor in urban expansion (Tang, 2010).

The sustainable human settlement is, therefore, a model that protects the

natural environment and preserves the characteristics of the local community. It provides multiple green spaces and spaces accessible to residents, as well as encouraging residents to walk and use stairs, reducing their reliance on cars. It encourages the use of technology to reduce costs and energy use, promotes the recycling of resources and includes the community in decision-making. The concept of the sustainable human settlement, as discussed in works such as *Towards Sustainable Communities* (Roseland, 1992), *Towards an Eco-city* (Engwicht, 1992) and *Building Sustainable Communities* (Nozick, 1992), is difficult to describe in one way or one style, especially when there exists no specific size for human settlements. Despite this limitation, many scholars have attempted to identify the main characteristics of sustainable human settlements. From a planning perspective, Kline (2000), for example, highlights four attributes of sustainable human settlements: ecological integrity; economic security; quality of life; and empowerment. Her underlying objective is to use these attributes as measurement tools or sustainability indicators to influence development decisions, track progress and evaluate results.

The human settlement provides healthy abundance to its inhabitants without the need for the settlement to consume more (renewable) resources than it produces, without producing more waste than it can assimilate, and without being toxic to itself or neighbouring ecosystems. Its inhabitants' ecological impact reflects planetary supportive lifestyles, whilst its social order reflects the fundamental principles of fairness, justice, and reasonable equity (Register, 2006).

Camagni et al. (1998) give a comprehensive survey of the integration of

internal subsystems, where the triangle consists of three subsystems: economic, environmental, and social. According to Castells (2000), these three are also the dimensions of sustainability. The main argument advanced by Castells in furthering his analysis is that integration of these systems, combined with the main ruling principles of profitability/economic growth, ecology/aesthetics and pure equity/welfare, are needed, and able, to assure sustainability.

Fleisher (2002) believes that sustainability is about finding the balance between a community's economy, the environment, and society. Viewed in this way, it follows that ‘sustainable urban development must aim to produce a city that is user-friendly and resourceful, in terms not only of its form and energy efficiency, but also its function, as a place for living’ (Elkin, 1991, p. 12). However, it should also be noted that a

> sustainable city is one in which its people and businesses continuously endeavour to improve their natural, built and cultural environments at neighbourhood and regional levels, whilst working in ways which always support the goal of global sustainable development (Haughton and Hunter, 1994, p. 27).

Walter et al. (1992) describe how a sustainable human settlement could be achieved in line with sustainable development and provide several strategic tools to help planners create a sustainable human settlement.

In 1997, Roseland introduced the sustainable human settlement as a way of focusing development towards healthy communities and a healthy planet. The idea of the sustainable human settlement has also been linked with other concepts, such as healthy communities or green communities, community ecological development, social ecology, green development, bioregionalism, native worldviews, and sustainable development.

2.4.4 The sustainable human settlement principle

Despite the lack of an agreed definition, researchers do agree on a set of principles by which to develop sustainable human settlements. Gaffron et al. (2005) define five elements of the EU-funded ECO-city project: urban structure, transport, energy, material flows, and socio-economics. Through so doing, they provide a descriptive model that includes some of the basic principles of the concept of sustainable human settlement. It is also recognised that building local social equity into a framework of global sustainability is difficult (Roseland, 1997; Tang, 2010).

Within the wider literature, the US Environmental Protection Authority (EPA, 2009) provides principles and guidelines to deal with three aspects of the dimensions of sustainable development. The economic field has focused on the importance of economic justice, multiple land use, and providing affordable and appropriate housing. The environmental area has focused on trying to preserve resources and diversity, and reduce pollution. In the social sphere, the aim is to promote active participation of the community, integrate local values and provide efficient infrastructures. Sustainable development is, therefore, a 'way of applying the principles of integration across space and time to all decisions' (Strange and Bayley, 2007, p. 29).

The EPA also provides a series of basic implementation strategies by which to apply the principles of sustainable human settlements. It summarises the process of developing a sustainable human settlement into four steps. The first step is to identify the geographic area, determine the values of the community infrastructure and identify the environmental characteristics of the area. The second step involves analysis and the production and

assessment of linkages between social, environmental, and economic issues. The third step is to set specific targets in a timeframe by linking needs and community perceptions and the desires of future development. The last step is to find solutions, develop strategies and identify responsibilities and prioritise actions based on the prevailing financial conditions.

According to Tang (2010, p. 18), urban ecology sets forth ten principles for creating sustainable human settlements:

> 1) Revise land use priorities to create compact, diverse, green, safe, pleasant, and vital mixed-use communities near transit nodes and other transportation facilities.
> 2) Revise transportation priorities in favour of foot, bicycle, cart and transit over motorcars, and emphasise "access by proximity".
> 3) Restore damaged urban environments, especially creeks, shorelines, ridge lines and wetlands.
> 4) Create decent, affordable, safe, convenient, and racially and economically mixed houses.
> 5) Nurture social justice and create improved opportunities for women, people of colour and the disabled.
> 6) Support local agriculture, urban greening projects, and community gardening.
> 7) Promote recycling, innovation, appropriate technology, and resource conservation while reducing pollution and hazardous waste.
> 8) Work with businesses to support ecologically sound economic activity while discouraging pollution, waste, and the use and production of hazardous materials.
> 9) Promote voluntary simplicity and discourage excessive consumption of material goods.
> 10) Increase awareness of the local environment and bio region through activism and educational projects that increase public awareness of ecological sustainability issues.

2.4.5 Sustainable human settlements in practice

Joss et al. have surveyed all of the initiatives that can be called sustainable human settlements. Their first attempt at doing this was in 2009 and the data that they produced was updated in 2011. The methodology they used was a survey combined with investigations undertaken through conferences,

online publications, and websites related to many of the world's sustainable areas, cities and projects. The researchers caution that there was still, within their work, a lack of some data, for example information published in local languages and therefore not accessed, and the existence of initiatives that had not yet been published internationally. The most critical information that can be drawn from their study is the size of international initiatives and the patterns and forms of human settlements of different sizes. According to Joss et al. (2011), sustainable human settlements can be divided into three different types: new development; expansion of an urban area; and retrofit development. They further observe that there are 178 sustainable human settlements projects in the world, which they categorise into three different types: eco-villages; retrofitted eco-cities; and master-planned eco-cities. However, Rapoport (2011) defines human settlements as the discourses and convictions behind sustainable human settlements. Using the same classification, Rapoport (2011, page) states that

> eco-villages are small, primarily residential communities often built within or near existing urban settlements. They provide a sustainable lifestyle in an excellent environment without pollution and are self-sufficient and involve the population in the decision-making process. Retrofitted eco-cities are existing cities which adopt eco-city principles. Master-planned eco-cities are the newest but increasingly the most high-profile variety of eco-city. These are newly constructed, large-scale, high-tech developments, often designed by international private-sector firms.

A sustainable human settlement project should be governed and managed by a governing body such as a local council, because it is huge and complex and cannot be addressed by one party or organisation. In addition, human settlements have an environmental impact on the needs and desires of different groups of actors and organisations. It is also the case that a

sustainable human settlement needs a mechanism whereby balance may be achieved between the economy, the environment, and society. Such a system should also provide a process of differentiation between them as well. It must take into account needs on a local level, and provide a measure for ordinary people to know and understand the impact of their actions and behaviour on their environment (Camagni, 1998). Sustainable development is thus a 'way of changing the predominant world view to one that is more holistic and balanced' (Strange and Bayley, 2007, p. 29).

Sustainable human settlement development happens in accordance with long-term goals and the development plans that are set out. However, it may change as time progresses to meet the changing needs and desires of the given population. For this reason, a mechanism is needed to organise and support local initiatives whilst simultaneously ensuring that individual goals are met and cumulatively contribute to the attainment of the main objectives of the sustainable city. There is inevitably a need for government intervention in the urban environment – for example, for the supply of public utilities and infrastructure development (such as electricity, water and sanitation), the allocation of private property rights to environmental assets (such as ownership, lease, exchange, and use), the redistribution of wealth to secure social stability, and the restoration of environmental damage caused by market failure. Evans (2005) presents such interventions as a means by which to ensure that there is legitimacy and accountability.

2.5 New human settlements

2.5.1 Garden city concept

Ebenezer Howard introduced the garden city concept to counter the effects

of the industrial revolution in the United Kingdom. These effects include, as Dockerill (2013) notes, rapid urban growth, increased levels of deprivation within the core of cities, and unhealthy urban housing conditions. Howard (1898) argued that garden cities would be self-standing new settlements surrounded by agricultural belts, designed to combine the best features of town and country, while avoiding the disadvantages of both. Howard drew the three magnets diagram to explain how people and businesses could be attracted to his town-country idea.

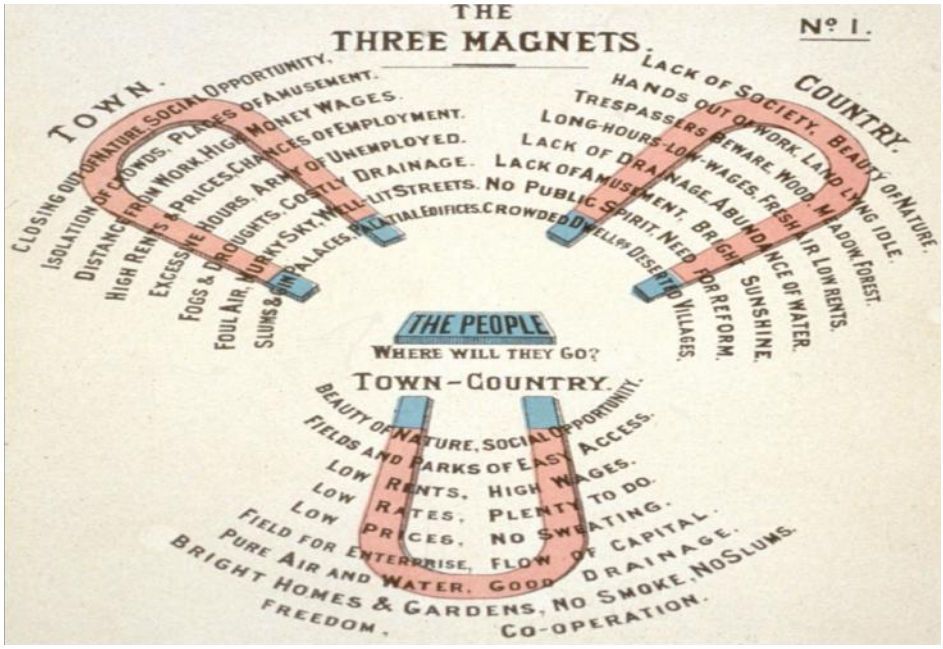

Figure 2.1: The three magnets diagram (as reproduced in Hall, Hardy and Ward, 2003, p. 28)

A proposal was made to develop garden cities that integrated economies, environments, and society. Garden cities would lead to a strong and balanced society through ordered development, re-distribution of the population and new cities that offered high quality environments with parks and open spaces. As Hall, Hardy and Ward (2003) note, these objectives were to be achieved by:

a) Unified ownership of land to prevent individual land speculation and maximise community benefit;

b) Careful planning to provide generous living and working space while maintaining natural qualities;

c) Social mix and good community facilities;

d) Limits to growth for each garden city; and

e) Local participation in decisions about development.

In 1899, Howard established the Garden Cities Association, later to become the Town and Country Planning Association (TCPA), to promote the idea of the garden city. In 1903, the first garden city, Letchworth, was founded. Howard believed that garden cities should be self-governing land owned by the community, where the growing value of land would create a local welfare state without the need for centralised state support. Garden city examples in the UK include Letchworth, built in 1903, and Welwyn Garden City, built in 1919 (Gossop, 2006). A garden city is defined as:

> a town designed for industry and healthy living; of a size that makes possible a full measure of social life, but not larger; surrounded by a permanent belt of rural land; the whole of the land being in public ownership or held in trust for the community (Town and Country Planning Association, 2008, p. 2).

The garden city required a planned dispersal of industries and people to redistribute the concentration of populations in the inner cities. The transfer of factories from inner cities was therefore needed so that the garden cities could provide jobs and housing (Gossop, 2006). In addition, garden cities needed their whole town framework to be preplanned with reference to their entire growth and development, including functional zoning, maximum

densities, population density, roads, open spaces, as well as with regard to the development of neighbourhoods as social entities (Gossop, 2006). The suggested size of a garden city was a maximum of 30,000, to enable the provision of public services, schools, and commercial shopping (Gossop, 2006). The function of the greenbelt that surrounded such garden cities was to control the growth of new settlements, and to provide agricultural land that could be used to bring further economic benefits to the locality. Agricultural production and local marketing near new settlements would minimise the need to source produce outside the area and lead to reduced food costs (Howard, 1902). Howard also suggested fertilising soil by using food and human waste (Howard, 1902).

Unified ownership under the management of the population would also preserve, according to the proponents of the Garden City Movement, the rights of investors, and profits would be used for the continued development and renewal of the city. It was also advanced that there should be cooperation between progressive municipal bodies and cooperative enterprises without compromising general individual freedoms in trade and industry (Gossop, 2006). Unified ownership would be the alternative to selling land to developers; new communities would take advantage of increasing land volume and thereby benefit from self-financing opportunities (Hardy, 2005). Long-term investment would also result in rental income from private commercial and industrial enterprises which could in turn be used to re-invest in community facilities (Evalina, 2011).

Hall and Ward (1998) described some elements for developing a new

settlement based on Howard's concept. To conform to his ideals, settlements should be clustered around transport nodes, with higher densities of population concentrated at those nodes. In addition, there should be a high standard of urban design quality and different uses of open spaces along with a strategic provision for green-field development. For self-containment, new settlements need to be located at a distance from existing large-scale settlements, whilst the provision of high-quality public transport to serve small, walking-scale communities of between 20,000 and 30,000 people would ensure that helps in the planning of new settlements to be self-sufficient These elements could be adapted, depending on local natural conditions. This rural decentralisation was designed to reduce pressure on cities and conurbations (Hall and Ward, 1998).

2.5.2 New towns

After World War II, the UK government used the principles of the successfully implemented garden cities to plan new communities through the New Towns Movement (Hall and Ward, 1998). The first wave of new towns was built in a ring between 21 and 37 mails from London. They were proposed by Patrick Abercrombie in the 1944 Greater London Plan. The aim of the plan was to disperse the population from central London to suburban areas, using the green belt to control the growth of London. To eight new towns, 400,000 people were moved from London, providing opportunities for the development of further open spaces in London. These first new towns, including four beyond London, proved very controversial and were often opposed vehemently by local people (Gossop, 2006).

The first generation of new towns designed with futurist shopping mega-

structures in 1956 were the only ones of their kind to implement housing and community services focused on a single centralised structure, unlike that proposed by Harlow and Crawley, with organic neighborhoods arranged around garden city green belts and open spaces (Morris, 2011).

Between 1961 and 1970, a second wave of new towns was planned as a result of a series of regional planning studies. The main goals of this second wave were to reduce pressure on London, and prepare for population growth in the regions. Four new towns were built in the North West: Skelmersdale, Runcorn, Warrington and Central Lancashire. In the North East, Washington was planned in 1964, whilst Peterborough and Northampton were to benefit from city expansion schemes rather than new towns. Milton Keynes was planned upon a green-field site for a population of 250,000 (Gossop, 2006).

The third generation of new towns has shifted by regional planning to develop new towns as centres of growth regionally, as in the innovative Runcorn and Milton Keynes (Morris, 2011).Some of third generation of new towns were negatively affected by the economic crisis associated with oil. As factories closed down, unemployment rose, as seen in Corby and Skelmersdale. Despite this, most new towns had achieved an admirable diversification of employment and were able to weather the storm (Morris, 2011).

From 1979, there was a reduction in building public housing for rent, and such developments were increasingly handed to the private sector, in the hope that it would invest in new town economies by developing

their own offices and factories therein (Morris, 2011).Between 1980 and 1990 there was a shift in the orientation of the government with regard to development. The focus moved to inner cities and the building of new villages with a population of between four and five thousand to relieve the pressure on cities. However, these villages could not be expected to provide a balanced society, owing to their small size (Morris, 2011).

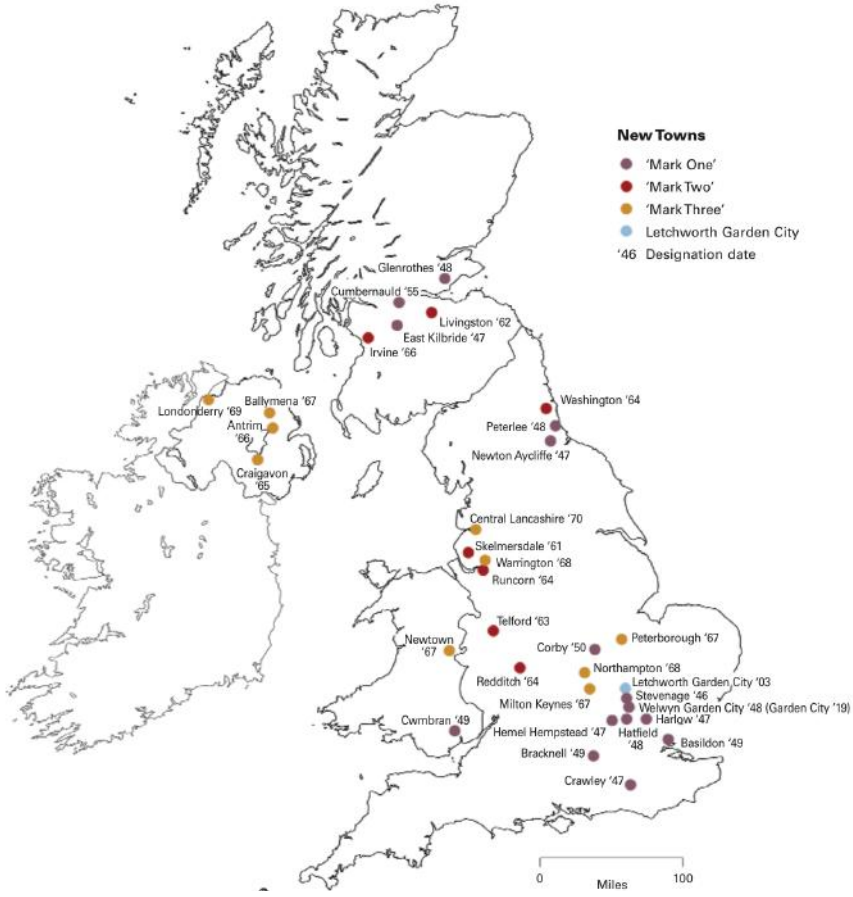

Figure 2.2: New towns in the United Kingdom (Town and Country Planning Association, 2014, p. 2)

2.5.3 New settlements as an international idea

Howard's garden city principles have influenced new settlements internationally, and have been considered and implemented all over the world (Parsons and Schuyler, 2002). The concept has, therefore, been

transferred from culture to culture (Hardy, 2005).

New settlements are affected by the strategic vision of regional planners. In the US in 1923, the Regional Planning Association of America (RPAA) developed an idea for regional cities. This vision has been used to implement new settlements, including the Appalachian Trail, linking Maine and Georgia (IAU île-de-France, 2013). The argument is that it is cheaper to develop a few large cities rather than building many smaller-scale cities. Furthermore, a large-scale new settlement can create new regional centres, as seen by doubling the size of Northampton and Peterborough as counter-magnets (Gossop, 2006).

The automobile affects all settlements. In the past, this led to changes in the layout of settlements, through the development of wider roads , car parking and the provision of pedestrian crossing places. In 1929, the garden city of Radburn in New Jersey launched itself as ‘the town for the motor age’ (IAU île-de-France, 2013). Radburn faced difficulties, however, in meeting the target size set out in its planning. The idea of separating pedestrians from car movement has been borrowed in the implementation of new settlements internationally, for example in the extension of Letchworth Garden City (Birch, 2002). This shift has made new settlements more car-dependent and anti-urban (Fishman, 2002). The rise in car ownership has also encouraged people to work and live in different places and to use their cars for travel (Gossop, 2006).

The garden city principle has also been used to create a new capital city. In 1911, Howard’s model influenced the design of a much larger city than

those previously constructed, now populated by 358,000 inhabitants; Canberra, the new Australian capital city (IAU île-de-France, 2013).

The garden city concept has also been modified and applied to suburban developments (Fishman, 2002). Garden suburbs comprise new settlements to redistribute populations of big cities to the suburbs (Frost, 1991) and were considered a more practical solution than building entire garden cities (Harrison, 1976). The garden suburb solution has been implemented in Brazil close to larger cities and has also, in a different form, been used by investors (IAU île-de-France, 2013). A number of garden suburbs was developed in New Zealand in the early twentieth century to deal with an influx of immigration from Britain, relieving overcrowding in the 'mother country' (Schrader, 1999).

The garden city principle is limited to providing housing. Early examples of garden cities in France used some of Howard's principles, but adapted them. The outcome was housing estates that are almost suburban, 'with an abundance of trees, hedges, lawns and large flowerbeds. The idea had to be transformed in order to allow for the construction of a high-density living area based on apartment blocks' (IAU île-de-France, 2013, p. 9). The main aim was to provide housing and a healthy environment in which to live, rather than to provide jobs or follow any of the other garden city principles. Housing units were planned with green open space; other, similar, projects were developed in Lyon and Marseille.

Japan faced difficulty in implementing Howard's principles. The government wanted to adopt garden cities to protect rural areas and rebuild

links between towns and their surrounding countryside. In practice, developing the necessary infrastructures in rural zones has resulted in populations in rural villages being kept; reducing migration. In 1965, Japan began planning a new town at Tama (IAU île-de-France, 2013). However, the nature of Japanese society, along with the nature of government support and intervention, and the power of landowners, presented difficulties (Evalina, 2011).

Some additional projects have also tried to apply garden city ideas, but in different ways. In 1935, Ville Radieuse was designed by Le Corbusier, who used high-rise construction to develop a vertical type of garden city (Parham, 2013).

the gated community; about 16 million Americans live in master-planned gated communities (Parham, 2013). This concept is usually seen as a large project that includes residential units and recreational centres, but does not combine different classes of society (Calthorpe, 1993). In China, the principle of the garden city has been used to develop gated communities that are ‘producers of specialised urban development’ (Giroir, 2007, p. 236). These offer high-quality living and working environments (Webster, 2001).

When critical principles of the movement have been ignored in the application of the garden city concept, it has led to notable shifts in outcomes, including the physical form of such cities (size, density) as well the delivery methods, such as self-governing communities and the re-investment of capital (Hall, 1988). In practice, garden cities vary greatly. In

form, Letchworth is the closest to a realisation of Howard's concept, but internationally there are other versions that show that the garden city idea can continue to be used in the future (Ward, 2003). Unified ownership of land would, for instance, allow residents to share the benefits of rising land values. This inspiration was applied in Letchworth, which is managed by a trust, and in Radburn – the first Howard-influenced garden city in the US. There, the association and agreements that are still active today require residents to pay a local tax towards maintaining the city (Birch, 2002). Some academics believe, however, that these ideas are too radical for new settlement developments, for they are too closely associated with socialism (Parsons and Schuyler, 2002), although Howard did in fact distance himself from that particular political movement (Hardy, 2005). Capturing land values was central to his proposals, and this does not fit with the agenda of either Labour or Conservative governments in the UK. At the same time, successive UK governments have provided no alternative way to apply this principle practically in their new town programmes. This has led to an imbalance in development, where the government has borne the cost of developing new settlements, thus affecting inner city development (Gossop, 2006).

Another principle that has been lost in the implementation of some new settlements relates to the growth and application of boundaries (Fishman, 2002). High land values and pressure to expand have led to the erosion of parts of the green belt (Fishman, 2002). In addition, local food production and agricultural activity has been lost in many new settlements for various reasons, such as changes in economic activity in the progression from

agriculture to industry, new capital, and tourism (Parham, 2013). Intended to provide rental income, this factor has been neglected and settlements have adopted a private sector approach, aimed at a quick profit and with a focus on the sale of real estate units (Parham, 2013). Public transport links to garden cities and other places have also been replaced by place-shaping, which has, in turn, validated car-based movement systems, as well as encouraging the further development of garden suburbs rather than cities (Parham, 2013). The idea of the integrated mixed community has been lost with gated communities that place an emphasis on privacy and exclusivity. Higher residential densities in the garden city were meant to provide a range of facilities in a short distance to achieve walkability. In practice, however, the new town versions of the garden city followed a low-density model (Parham, 2013). People migrating from inner cities to the new settlements led to a decrease in demand for housing in inner cities, which also allowed for the redevelopment of existing cities (Gossop, 2006). Despite the problems and deficiencies in the application of the garden city principles, some positive results have been achieved (Parham, 2013). The concept of the garden city, therefore, not only demonstrates durability but flexibility, as it has been adapted to individual circumstances (Ward, 2003). That said, there are risks when some of the elements are forgotten or rejected, as it can lead to unexpected results (Gossop, 2006).

In 2010, Xuewen designed a diagram (Figure 2.3) which illustrates that there are different types of new settlement: garden cities, independent new towns at a distance from large cities, ‘new communities’ or ‘bedroom communities’ with incomplete functions, and twin new cities beside large

cities, which play almost the same roles as the old cities, and new towns as satellite towns. It can be inferred that there is a relationship between the size of the new settlement and the existing city.

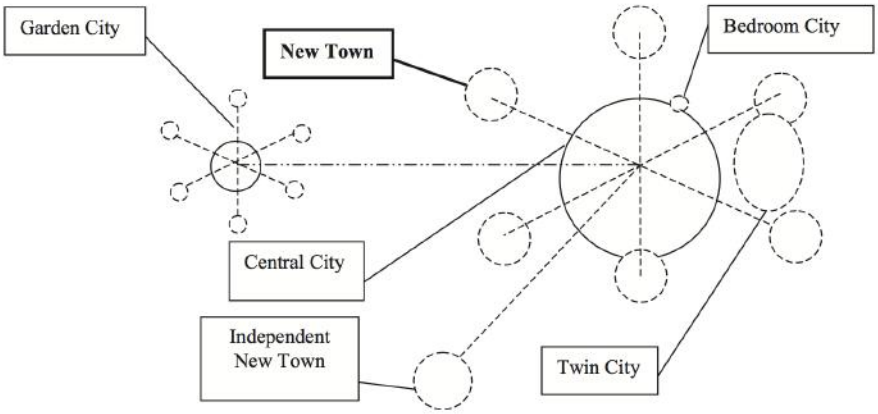

Figure 2.3: Different types of new settlement (Xuewen, 2010, p. 49)

2.5.4 The new human settlement as a new direction

There are two different schools of thought with regard to the extent to which the garden city can become a viable solution to twenty-first century urban problems. Both schools accept that the garden city is a valuable concept in town planning, and that it provides a good quality environment for work and living. Moreover, it is widely agreed that it must be able to deal with a high rate of population growth and limited land availability issues (Freestone, 1977; Newman and Kenworthy, 1991; Parsons and Schuyler, 2002; Ward, 2003; Hardy, 2005; Kexin, 2006; Evalina, 2011; TCPA, 2011; IAU île-de-France, 2013; Parham, 2013). The first school of thought claims that the garden city concept is not relevant in today's world. Evalina (2011), for example, believes it is no longer relevant to current planning, as this requires a different environmental approach to meet sustainability principles. Newman and Kenworthy (1991) argue that decentralisation has

led to high costs for the development of infrastructures. It is also advanced that the loss of agricultural land and development of new low-density settlements has led to more car dependency, which has in turn led to greater levels of traffic congestion and further negative environmental impacts. Kexin (2006) contends that the garden city concept does not deal with the proportion of population in relation to land mass. In China, for example, there is not enough land to develop garden cities with low-rise buildings.

The second school of thought advocates the need for new settlements completely different from the garden city, but does agree that the garden city concept can be used both now and in the future. They believe that Howard and the New Urbanists share the same vision for creating new communities (Parsons and Schuyler, 2002). Garden cities, the second school of thought proposes, can be reformulated based on sustainable urbanism, and the garden city can be compact (Ward, 2003). In the past, garden cities had good economies, but nowadays people need to access a wider range of jobs than those that could be offered in a single small city. These jobs can also be offered in an urban region (Parsons and Schuyler, 2002). Parham (2013, p. 7) argues that

> there is a difference between 'selective borrowing' of garden city ideas, and claims for garden city status that represent a kind of greenwash for urban developments which have few of their salient characteristics, and may even be used to pursue extremely questionable aims.

Furthermore, 'both the garden city and the sustainable development agenda share the same social, economic and environmental challenges' (IAU île-de-France, 2013, p. 64). Planners need to select those principles of the garden city that can be integrated with Compact. These should include sensitivity to

different settings and cultures (Hardy, 2005). Today, the garden city concept has been recognised as one that has values that can be re-interpreted. To quote IAU île-de-France (2013, p. 4):

> Without copying exactly these intelligently-designed urban complexes, the question today is how to think about the city of tomorrow, the sustainable, dense, sociable and energy-efficient city, through revisiting the important values of the garden cities. How do we reinterpret urban forms, the organisation of public spaces, the place of nature, our way of living, the life of the neighbourhood, social and functional mixity and even urban utopia?

To create a new settlement in line with sustainable urban development, Pacione (2004) advises that it could be potentially self-contained by providing jobs and houses locally. Moreover, he advances that day-to-day travel could be made by public transport and on foot rather than by car. Today, the selective borrowing of garden city ideas is used to meet sustainability principles. This is because new settlements need to be 'sufficiently urban, compact, mixed, walkable and diverse to form part of resilient responses to rapid city growth deeply challenged by global threats including climate change' (Parham, 2013, p. 13).

This school of thought sees new settlements developing as a result of the shift that happened to the garden city movement in its transition from concept to practice. Furthermore, they provide evidence of different transferable principles that travel from garden city to different types of new settlements. To quote Hardy (2005, p. 390), 'if a flexible approach can be adopted, there is undoubtedly a role for the garden city in contributing to the creation of future generations of sustainable communities'.

In the context of discussions of urban form, or the evolution of the history of urban planning, a range of other kinds of new human settlements have also been developed, both conceptually and in practice. These have often been promoted as a means to deliver more sustainable urban planning and development. These include ‘eco-cities’, ‘green communities’, sustainable settlements and garden cities. Given this range of concepts and experiences, Zhenghong (2013, page) recommends that ‘future research and empirical studies will be necessary to analyse planning theories in different cities. These studies can then be summarised and added to the established planning theories’.

In the UK, the Department for Communities and Local Government (2006, p. 7) recommended future research in three areas. First, it called for consideration of ‘other types of large-scale development, the expanded towns, and new towns outside of the New Towns Programme in England’; secondly, it sought studies on new towns internationally; and thirdly, it maintained that ‘comparison with other towns sharing the same regional context’ would provide a useful counterpoint. It also recommended a further study that ‘pulls together current best practice in terms of development’ (Department for Communities and Local Government, 2006, p. 7) to provide a more rounded view of how the future could be shaped. The TCPA (2011, 34) also argued that there was a need for detailed research to inform the development of new settlements, as

> a comprehensive appraisal of the New Towns Programme should fully assess its successes and failures as well as providing lessons for today’s new settlements. Without this appraisal it will not be possible to fully develop an understanding of how to create the resilient, attractive and sustainable communities of the future.

2.6 Discussion and conclusion

There are many challenges for town and regional planning in the twenty-first century, due to the rise in the world's population; as 'the world continues to urbanise, sustainable development challenges will be increasingly concentrated in cities' (United Nations, 2014, p. 7). The big task for this century is how to create new human settlements to meet the challenges of this population growth, as well as the associated increases in migration to towns and cities (Hall, 2011; United Nations, 2014). There are need to face the twenty-first century challenging and the influence of the principles of sustainable development in the new settlements planning. The new human settlement concept was actually born in the late nineteenth and early twentieth centuries, seeking a greater balance between the core city and country life. This idea became the starting point for creating new human settlements; however, the original idea has shifted and been modified. The problem in the nineteenth century was about urban living conditions, such as clean water, basic sanitation and decent housing. Now, there is high quality infrastructure and housing, but the problem has become one associated with car-dependent suburbs, overcrowded industrial cities, social isolation, and rapid suburban sprawl. Planners have to develop a new form of new human settlement to deal with these problems.

Howard's principles have nevertheless influenced new settlements internationally (Parsons and Schuyler, 2002). They have been considered and implemented all over the world, transferring the concept from culture to culture (Hardy, 2005). Planning for the construction of new human settlement can be attained through the attainment of a set of goals and

objectives and thenceforth through a methodology implemented over a specified period of time. The processes adopted therefore deal with conflicts between the wishes of the community and decision-makers, as well as the planning process, seeking to gain consensus and a balance between economic, environmental and social environments. New human settlements are thus tools used in urban planning. Confronting the fundamental problems of initial high demand for residential units and secondly the need to provide jobs, this type of settlement is working to provide housing units and jobs in an attractive way, with fewer negative effects on the environment.

The past experiences of new human settlement have resulted in the creation of many different forms of settlement; these are difficult to compare, although they share a goal and some basic principles. There are many models applied around the world which are similar in some characteristics, but involve different sizes, shapes and densities, and there are also different ways of building and developing new human settlements. Whilst the idea of new human settlements originated in the UK, it has since been applied – but with a shift in the concept – to various countries, including in Asia, where it took on a different character. In so doing, it used the same style, but in a different way to meet the needs and circumstances of different local environments. In China specifically, it has led to higher density cities and the size of the largest and planning to become significant new cities. The concept of new human settlements has been changed and transformed from a local idea to become a universal concept. As has been explored in this chapter, ‘humanity has the ability to make development sustainable to

ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs' (UNWCED, 1987, p. 24), as well as the responsibility to accomplish this.

There are three different aspects to sustainability: social, economic and environmental; these dimensions are the basic elements of sustainable development (Munier, 2005; Basiago, 1999). New human settlements can bring planning in line with the principles of sustainable development in social, economic and environmental aspects. New settlement planning needs a long time to accommodate the due diligence necessary for sustainable development as well as community decision-making, and thus there is a need to evaluate existing practices. Only in doing this will it be possible to determine whether an effective solution has been found, so that planning may move in the right direction, avoiding the mistakes of the past. Viewed in this way, it follows, therefore, that new human settlements can be used as a tool to deal with the high demand for housing, as well as job opportunities. The principles of Howard's original ideals can thus be remoulded to meet present needs and to develop new frameworks to plan new human settlements for future decades. Accordingly, having tracked the historic development of these movements, the next chapter outlines the core principle of new human settlements and contextualises the principles that underpin new human settlements.

CHAPTER 3

Implementing the new human settlement concept and Implementation

3.1 Introduction

This chapter discusses the new human settlement concept and outlines core and contextual principles. It outlines the research framework, which is focused on the concept and is used to identify the key factors that need to be investigated in the implementation process.

The chapter is divided into ten sections. After the introduction, the chapter discusses new human settlements in the second section. The third section looks at new human settlement types. Section Four explores European new human settlements, whilst the subsequent section considers such settlements in Asia. Section Six examines the mechanisms for the transfer of new settlements as a planning idea. Section Seven discusses the issue of human settlements from an ontological perspective. Following this, the next section reflects upon new human settlements from an epistemological viewpoint. Section Nine addresses implementation factors. The final section concludes the chapter.

3.2 New human settlements

The term ‘new human settlements’ is an umbrella concept that includes different types of new settlements that create new communities, such as new settlement, new village, new town and new city. Although there are differences, including the size and density of the population, they share one

goal: to build new communities. New human settlements can change over time depending on human needs; therefore the concept is not static one.

The process of abstraction of the concept ‘enables comparison and generalisation and leads, among other things, to overcome spatial barriers’ (Maloutas, 2013, p. 2). A high level of abstraction facilitates this more easily. On other hand, concepts that have a lower level of abstraction are limited to particular contextual parameters. In geography, it is difficult to produce concepts at high levels of abstraction ‘to processes of abstraction and theory building that lead to concepts and theoretical constructs that are only seemingly disentangled from their attachment to specific social, economic and environment contexts’ (Maloutas, 2013, p. 3).

Differences can be managed in various ways. While variations of use can be solved by specifying context and structure, individual circumstances include visible aspects, planning systems, and underlying aspects such as traditions, norms, and language. This is an important step forward to more systematic comparative research that discusses planning processes and practices with regard to different cultural contexts (Steinhauer, 2011, p. 483). Callon et al. (2009) focus on three processes of ‘translation’, where an idea is transferred from one place to another. These processes can be ‘secluded’ which applies the idea in a specialised community; ‘centres of calculation’ to analyse the change that happens within a specialised community; and ‘passage point’ from a centre of calculation to the wider world, in last stage actor-network theory (ANT). ‘Interpretive policy is used to explore the broader institutional context within which new ideas are formed and struggle to flourish, but typically examine changes within a particular context’ (Healey,

2013, p. 1519).

It is necessary to adapt to changes in the environment, society and economy in planning. Sustainable development has become a requirement for the future (Alden et al., 2001). With the transfer of power to local authorities, there is a need to consider the government's approach to recent innovations in planning (Alden et al., 2001). Planning is moving towards popular participation in decision-making, in addition to becoming more sustainable than previously (Alden et al., 2001). The application of this new approach is through knowledge and lessons learned from the past and less successful experiences in planning, which has led to the conclusion that experience becomes theory that is then implemented in planning practice (Flyvberg, 2004). Sustainable development is a process 'linking what happened in the past to what we're doing now, which in turn influences the options and outcomes of the future' (Strange and Bayley, 2007, p. 104). New human settlements are made to meet current needs and respond to the different demands of various cultural and climatic settings (Hardy, 2005).

Governments face the challenge of providing affordable private and social housing in more sustainable ways. New settlements often end in disappointment and failure; this is partly because building flourishing, cohesive, inclusive communities is genuinely challenging, but it is also because putting into practice what is known is difficult (Hall, 2011). Sustainable development is a learning process undertaken with others, to learn from practice. However, comparisons between countries or regions that have different histories, cultures, and levels of economic and social development or physical conditions are difficult (Strange and Bayley,

2007).

The principles to achieve change can be borrowed from their original theoretical environment and then reintegrated into a new context; a principle can “travel” more easily than the whole concept, because the principle has a higher degree of flexibility (Franck, 2009). Golany, in 1984, observed that the concept of what provides a direction to broad principles of planning, can be implemented in different contexts.

The concept gives important guidance to professional planning practice (e.g. Campbell and Fainstein, 1996; Thornley and Rydin, 2002; King 2003; Nasr and Volait, 2003). During the process of borrowing concepts from different societies, it is important to understand the differences in social, cultural, political and economic aspects of planning, as well as different levels of governance from the nation state to the community level, and that the key mechanism of the travelling idea is research partnerships between academia and theorists, in both developed and developing countries (King, 2003).

In the light of theoretical assumptions about new human settlements, the concept of the new human settlement was critically reviewed and established in terms of three basic beliefs: ontology, epistemology, and methodology. A framework was used as a tool to undertake comparative analysis (Kantor and Savitch, 2005) and to investigate the implementation process of the concept of new human settlements. According to Steinhauer (2011, p. 483), ‘comparative research has to take into account different contextual meanings, strongly influencing planning processes and results’.

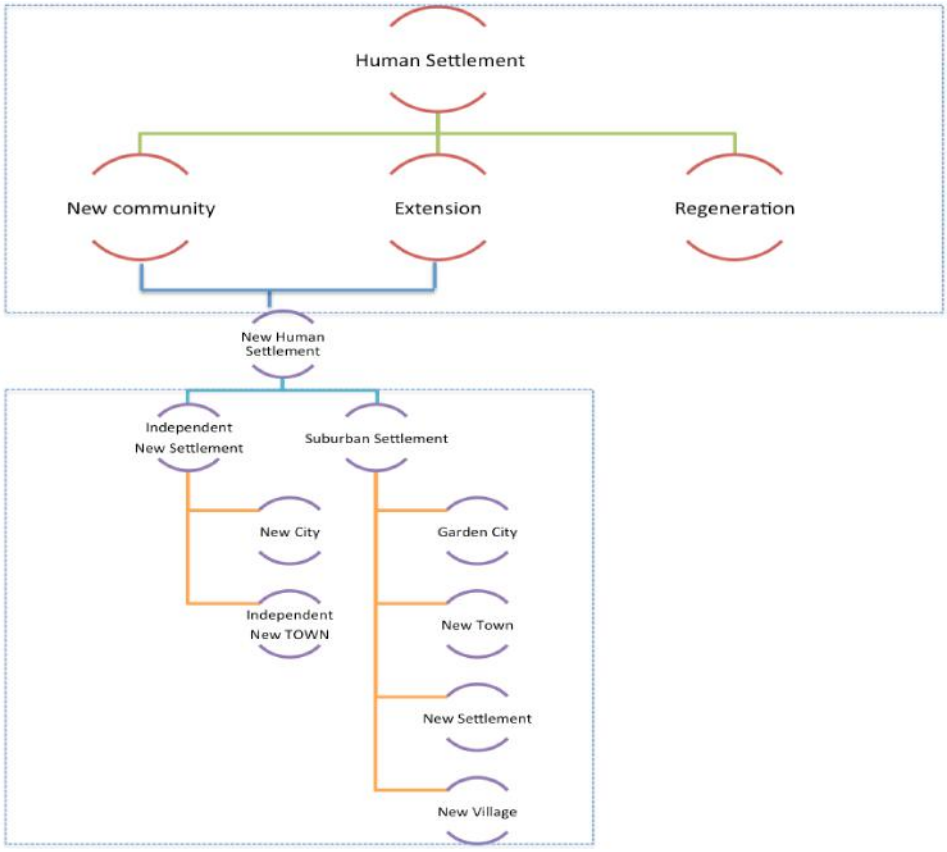

Figure 3.1 New human settlements (adapted from Simon, 2011).

New human settlements are thus seen as having the potential to:

1) reduce various kinds of development pressure on existing settlements (for example, environmental, housing, transport, and economic pressures);
2) redistribute population among/across the provinces, or regions, of a nation;
3) create new communities with clearly-controlled limits to growth;
4) support local economic sites and provide job opportunities for the current society and future generations;
5) create mixed communities that are integrated economically, socially, and ethnically, around the world;

6) provide affordable housing; and

7) attract real estate projects and investment from the private sector.

New human settlements were born from the shift from Ebenezer Howard's theory when the idea was transferred from England to Asia. Since 1990, many new human settlements have been planned to be in line with the sustainability principle. This research highlights this phenomenon and defines new human settlements as places which are for creating new communities that offer new housing and jobs for current and future generations without negatively impacting on the environment. New human settlements can be new developments or an expansion of an urban area.

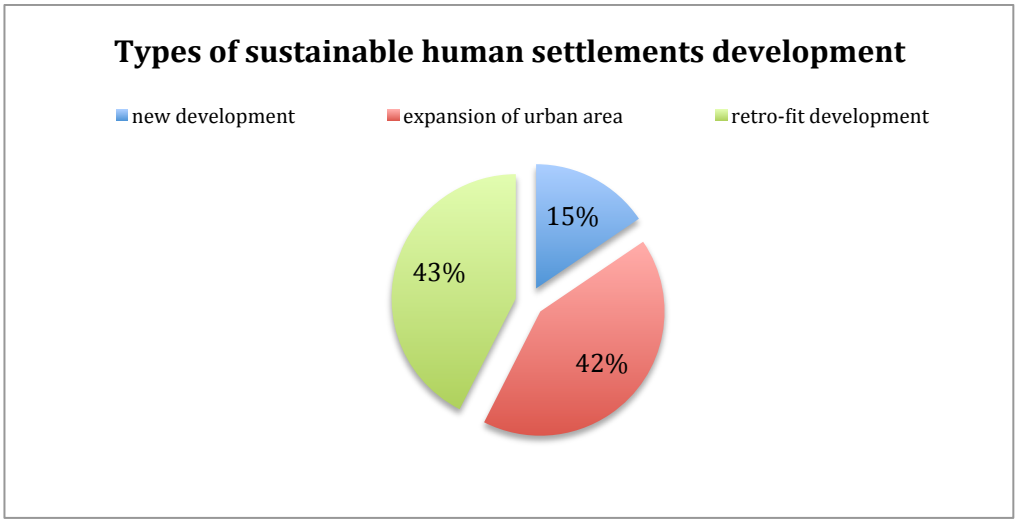

Figure 3.2 Types of sustainable human settlements development (adapted from Simon, 2011).

According to Simon (2011), new human settlements account for about 43 per cent of all new projects in his global survey. About 15 per cent of all new projects are new developments and 42 per cent are defined as expansions of existing urban areas (Figure 3.1).

Simon (2011) comperes between Asia, Europe, America and Africa in his survey to investigate the type of sustainable human settlements. The key result from this research can be seen as:

The majority of new sustainable human settlements are located in Europe and Asia. However, Asia has about 56 per cent of all new developments and Europe has about 63 per cent as expansions of urban areas.

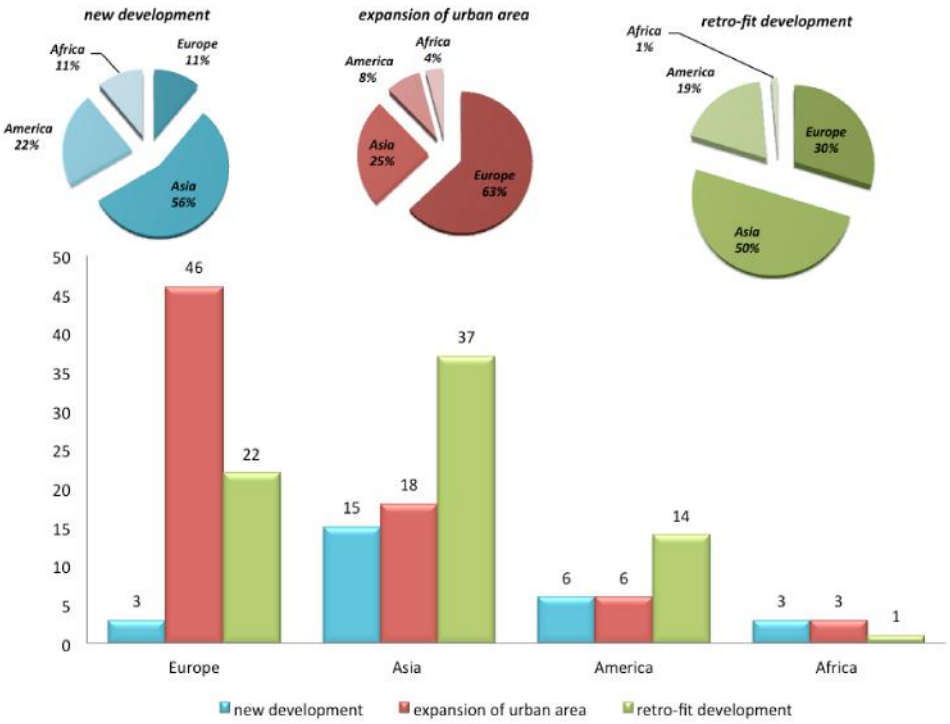

Figure 3.3 Sustainable human settlements type comparison between Asia, Europe, America and Africa (adapted from Simon, 2011).

In the practice of implementing new human settlements, a number of key ideas have been influential. For example, the notion of the new human settlement, which was originally influential in England, has “travelled” to various other parts of the world. However, as it has travelled, the concept has been modified and not all of its original aspects and components are used in every place where it “lands”. Some of the principles have been kept, but there is also a selective borrowing process whereby only certain parts of

the concept have been used, based on the needs and criteria of the "importing" countries.

Where the notion of the new human settlements has been influential in Asia, for example, the original concept has been modified with new settlements being different in size and urban form to the original vision of the new human settlement (Howard's Garden City Movement). In Asia, the new human settlements being built often have far larger populations than the garden cities envisaged in England, with some having populations of over 300,000 inhabitants. The new human settlements have also changed from urban to suburban (Parham, 2013). The concept of the new human settlements has in effect become more abstract and applied to describe many different types of new human settlement. A key feature of the new human settlements which has been deficient from almost all challenges to implement the idea in practice, is the creation of autonomous and self-governing communities with the power to re-invest profits in the further development of the city and its facilities (Parham, 2013).

3.3 New human settlements type

The research has identified different ways of classifying new settlements:

- First, new human settlements could be classified according to their main development aims.
- Secondly, new human settlements could be classified according to their size and development scale.
- Thirdly, new human settlements could be classified according to their location and relationship with the 'existing settlement' or core settlement (Keeton, 2011).

In the research, the first means of classification has been used to identify different types of new human settlement based on their main development aims. Using this approach, six new human settlement types were identified:

1. Political new human settlements, which are developed to be new capitals or to be as federal administrative centre settlements. An example is Putrajaya new town in Malaysia.
2. Ecological new human settlements, which are developed to meet a high standard of environmental performance; for example, Tianjin eco-city in China, or Masdar in the United Arab Emirates.
3. Enclave new human settlements that are developed to offer a retreat from the existing city, such as Blue City in Oman.
4. Economic new human settlements developed to attract investment and support national economic growth, including King Abdullah Economic City in Rabigh, Kingdom of Saudi Arabia.
5. High-tech new human settlements which are developed to utilise technology as an attraction; an example is New Songdo City in Korea.
6. ‘Shelter’ new human settlements are developed to meet housing needs, such as Bumi Serpong Damai in Indonesia (Keeton, 2011).

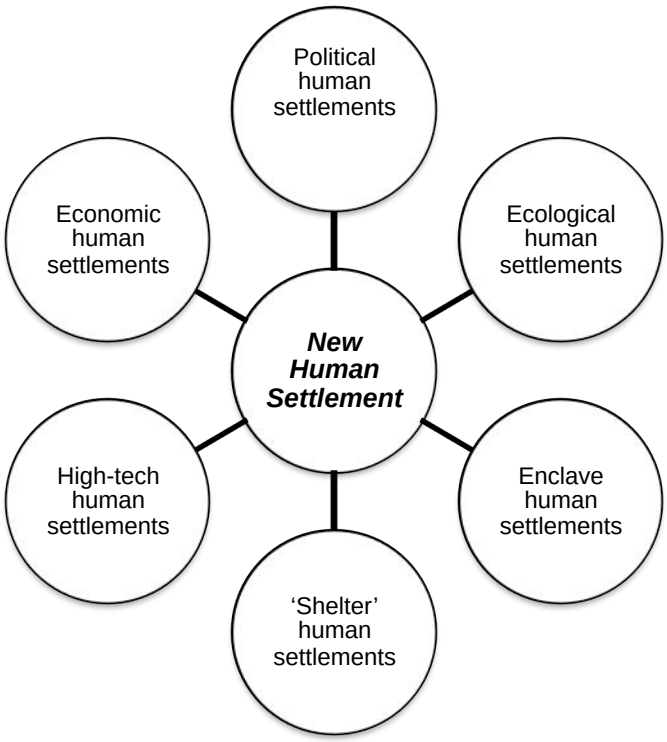

Figure 3.4 New human settlements types (adapted from Keeton, 2011).

New human settlements can also be classified, according to size and development scale, into four types:

1) New villages. These are small settlements that are built to house a population of less than two thousand people, for example, Lightmoor in Telford, England.
2) New settlements. These are built with three or more new villages being set together to create a settlement with a population of around 5,000 people, such as Cambourne in England.
3) New town. This is a medium-sized settlement that is built with a population of less than 200,000 people; for example, Milton Keynes in England.

4) New city. This is a large settlement with population of more than 300,000 people, including Dongtan in China and Rabigh in Saudi Arabia.

Thirdly, new human settlements can be classified according to location and relationship with the “mother”, or core, settlement.

1) Standalone new settlements, which are located far from the existing settlement. In such cases, a new settlement will need to be large enough to accommodate a full range of facilities to meet the population’s needs.
2) Suburbs are new settlements that are set next to the existing city. These can be small in size, for example Eco Bicester, or larger, such as Jajan new settlement in Saudi Arabia.

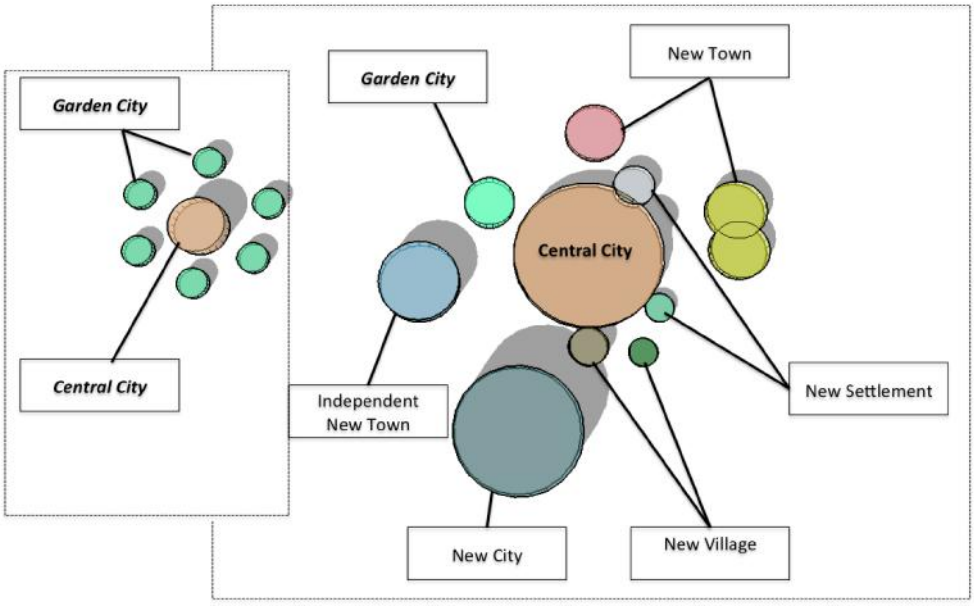

Figure 3.5 New human settlements types, describing the shift from the Howard concept

This figure describes the shift that happens to an idea when it is implemented. The original idea that was Howard’s concept has been shifted to five different types of new community (garden city, new village, new

settlement, new town and new city). The central city is the existing city that needs to accommodate new communities as result of increased or new demands for housing. A new village is the smallest new community that can develop next to the central city. A new settlement is bigger than new village and, in some cases, a new community can be used to describe three or more new villages set close each other. A new town is the big new community set quite a distance from the central city. A new city is the biggest big new community set quite a distance from the central city. This type of new community is used outside the UK, particularly in Asia. Figure 3.4 shows that there is a relationship between the size and distance from new community and the central city. The relationship between the size of the new human settlements and distance between them and the central city is a direct correlation.

3.4 European new human settlements

3.4.1 Adamstown in Ireland

Adamstown is a new town in Ireland, located about nine miles from Dublin. It is built on greenfield, of about 214 hectares. The land is owned by three different developers, and has an advantageous location near the railway. The new railway station was established in 2007 (Urbedcoop, 2016).

The new settlement also has the advantage of being a strategic development zone (SDZ); this was established to encourage the development of large-scale development by the private sector, which has economic or social importance to the State. It gives the local authority more power to make decisions. The SDZ can be used to avoid delays in what is often a slow planning process. In 2003, the master plan was approved and, under the

SDZ, objections to the decision could not be lodged (South Dublin County Council, 2007)

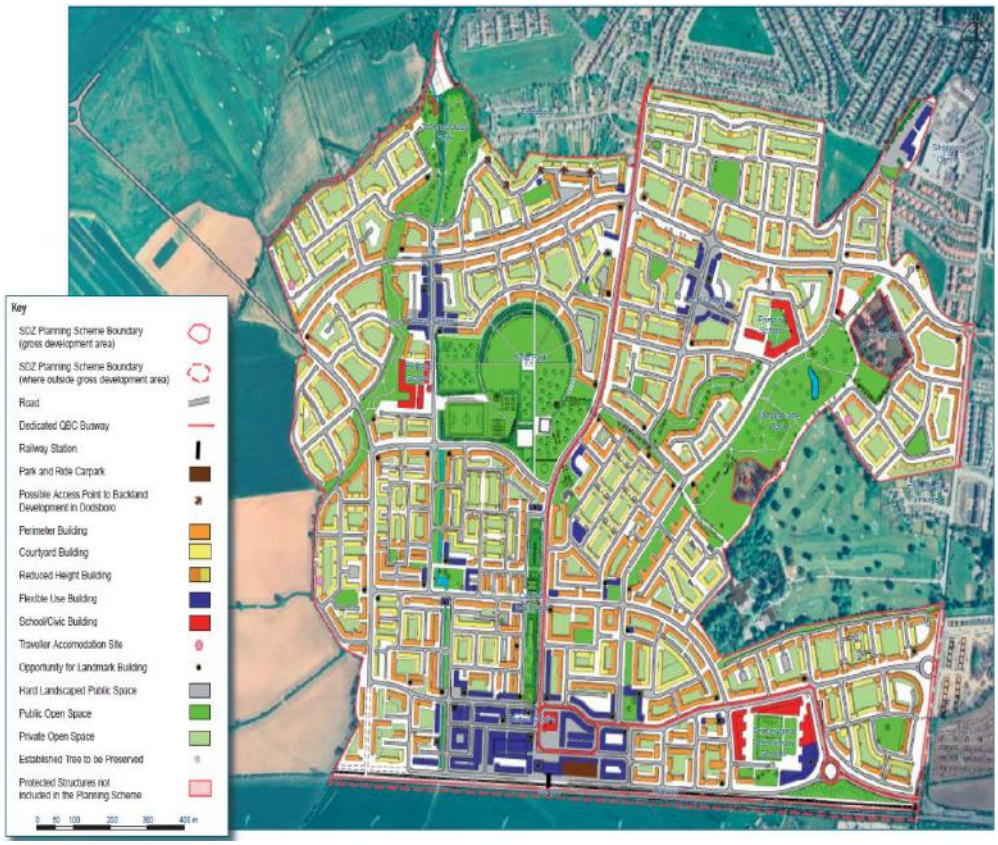

Figure 3.6 Adamstown master plan (South Dublin County Council, 2007)

The new settlement required an obligatory legal agreement that describes the implementation process, including the intended infrastructure of houses and public facilities. The legal agreement had a minimum requirement for each stage of development. It included a timeframe, agreed by South Dublin County Council and the developer, which included that the fast railway link to Dublin should develop at an early stage of development. Each year, the annual report published a quarterly newsletter used to give the residents a clear idea about the development process. The local authority, in order to encourage the developer, provided public facilities in the early stages. The

argument included that the part that shows the price will be raised as the market price, so for example if the developer provided the park at an early stage, it will be at a lower price than if provided at a later stage. The price of land will be raised through market mechanisms, and the developer must pay at the end (Urbedcoop, 2016)

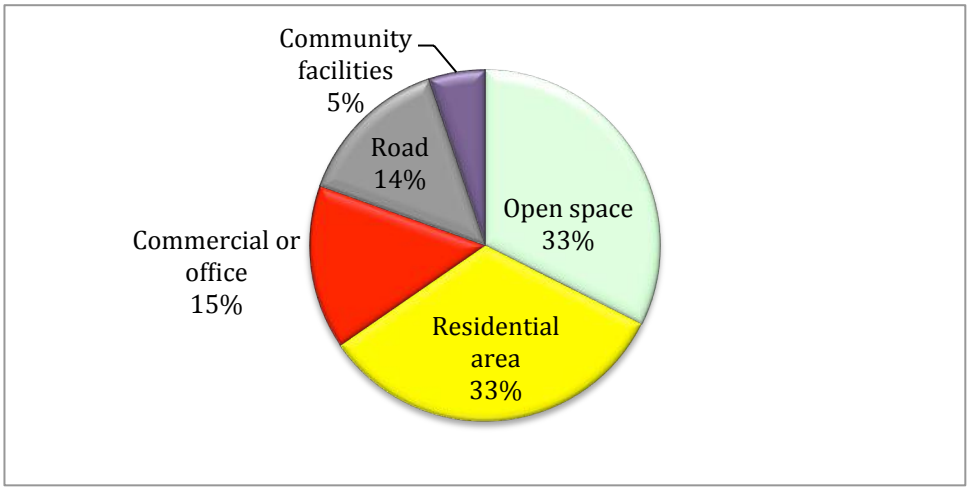

Figure 3.7 Land use for the new settlement of Adamstown

The key point for the new settlement was that on the master plan design. The key strategy in developing the new settlement was that each phase had a target to develop the houses and public facilities together, to make the public facilities ready to be used from day one, to create a more attractive environment, and help to create a sustainable community. The new settlement was divided into 11 self-contained neighbourhood districts. The first stage was to develop the infrastructure and public transport, as these were key for raising values and improving accessibility to the site. Three small primary schools and a secondary school were also on site, despite only 1,000 houses having been developed. The new settlement has been planned with low-rise, four-storey buildings with continuous frontages. The

main principle was not to use high-rise buildings; four-storey buildings were the maximum ((Urbedcoop, 2016).

3.4.2 Vathorst in the Netherlands

Vathorst is one of three new settlements (Kattenbroek, Nieuwland and Vathorst) located in Amersfoort. The three new settlements have different characters, but all of them are connected with the existing centre. Kattenbroek was planned in 1986, with an average density of 31 dwellings per hectare. The new settlements provide 4,547 dwellings. Nieuwland was planned in 1993 to provide 5,420 new homes, with a density average of 31 dwellings per hectare. Vathorst is a large new settlement in Amersfoort, planned to have 11,000 houses completed by 2014. Vathorst will have a population of about 30,000, with a range in density of 27-48 dwellings per hectare. Vathorst provides 5,000 jobs in industry, tourism, and trade (Falk, 2008). Flexibility in the master plan allows owners to add additional storeys as their families grow or they have funds for the work. Designing houses and space around waterfront will give distinctiveness, a sense of place and add value. An integrated mixed community provided the chance to live and work within the new settlement. A housing mix (owner-occupation and 30 per cent available for rent) in architecture, density, scenery, and structure was provided. The developer used temporary buildings as a tool to offer a range of facilities, such as shops, schools, crèches, and healthcare facilities, whilst the permanent facilities were under construction (Urbedcoop, 2016).

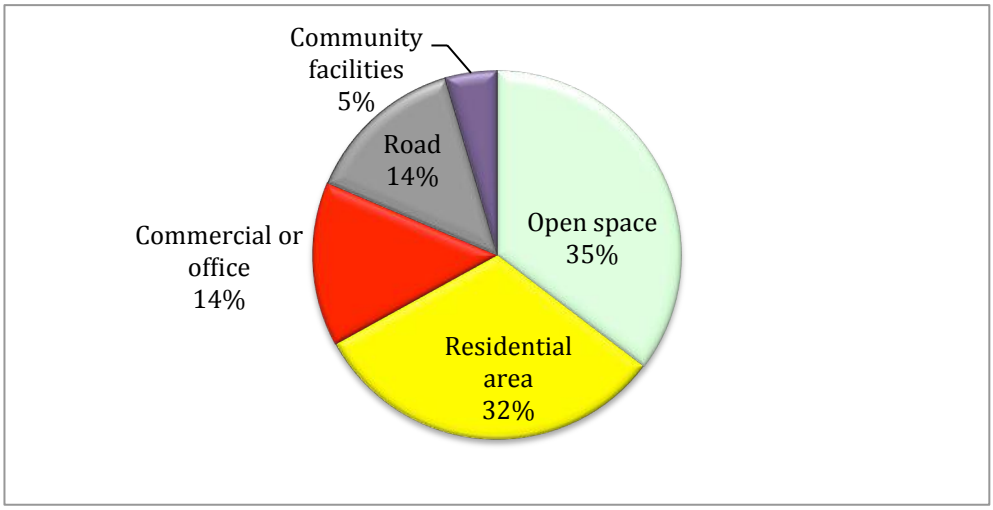

Figure 3.8 Land use for Vathorst

Figure 3.9 Vathorst master plan (Urbedcoop, 2016 , p9)

Vathorst planned to reduce car use by encouraging walking and cycling, as well as the use of public transport to stop people using their cars for short trips. Integrated public transport and bus stops were located about 400 metres from each home. Cars are not permitted access to the city centre. They use solar gas and installed solar roofs on key buildings such as primary schools. They promote recycling and keeping the streets free of clutter as strategies that allow less need for large refuse vehicles. Public and

private sector partnership was also important. Public sector investment was supported by providing low rates of bank interest and applying an ‘equalisation fee’ as the charge (between 20 per cent to 28 per cent of the market price) to cover all settlement facilities (Urbedcoop, 2016).

3.4.3 Derwenthorpe in England

Derwenthorpe is being developed as an urban extension located on the east side of York, with about 500 housing unit. It aspires to be a sustainable new community in England. The development of Derwenthorpe was started in 2012, to be completed by 2018. It has provide about 317 housing units for sale (59 per cent), 135 for social rent (25 per cent) and 82 for shared ownership (15 per cent). The master plan is divided in to four phases (JRF, 2016).

Figure 3.10 Derwenthorpe master plan (PRP Architects, 2016)

The vision for Derwenthorpe includes:

- Social sustainability by creating a successful mixed tenure community and housing units, which are adapted to household change over time.
- Environmental sustainability by providing eco-friendly, energy-efficient housing units and reducing the impact on the environment.
- Social and environmental sustainability by creating a sense of place through the provision of green and open space. It is planned as a long-term investment to develop and promote active community participation, creating mixed communities and socially sustainable communities (JRF, 2016).

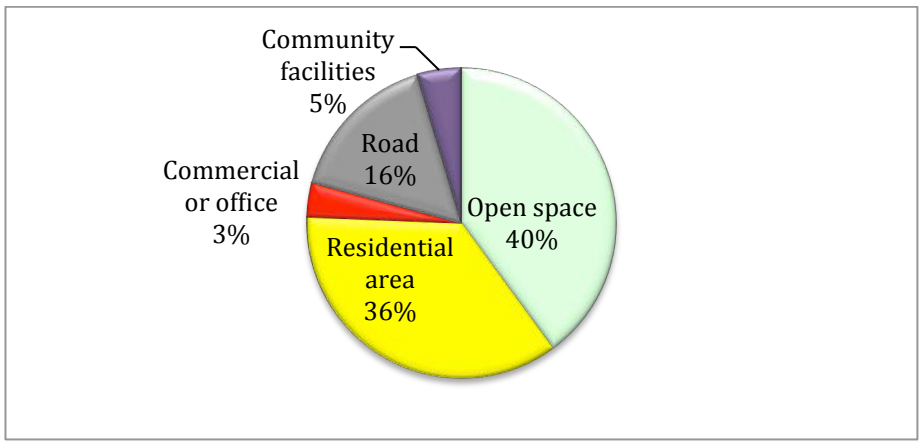

Figure 3.11 Land use for Derwenthorpe

3.4.4 Vauban in Freiburg in Germany

Reiselfeld and Vauban are new settlements as a planned expansion of 10,000-12,000 people. Reiselfeld and Vauban are located next to Freiburg in Germany. Vauban has a population of 5,000 residents, and Rieselfeld currently has 8,000. Planning of Vauban started officially in 1996 and was completed in 2006; Rieselfeld is due to be completed in 2010. Reiselfeld and Vauban are urban extensions, located 15 minutes from Freiburg city centre by tram (PRP, URBED and Design, 2008).

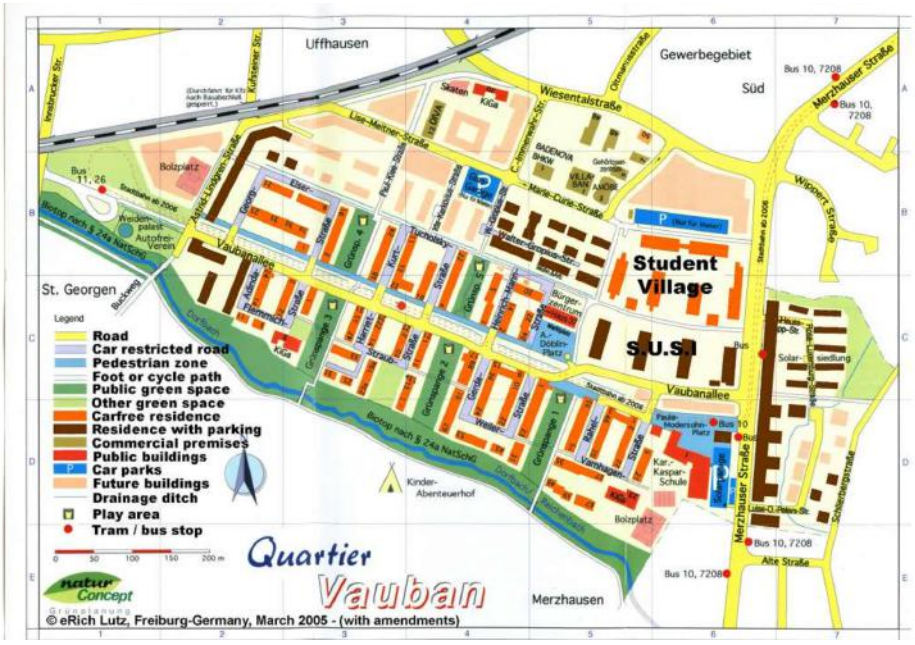

Figure 3.12 Vauban master plan (Greenlivingpedia, 2015)

The Vauban development was concluded at the end of 2006. Vauban provided 600 jobs within the city. It is located on 41 hectares with a high density of about 141 persons per hectare. About 2,000 low energy homes have been developed in Vauban. Vauban has a large amount of open green space that provides a very pleasant feeling and encourages people to use it for walking, playing and general enjoyment. Public engagement has played a key role from the early stage of planning for all aspects of the project, including social, economic and environmental elements (PRP, URBED and Design, 2008).

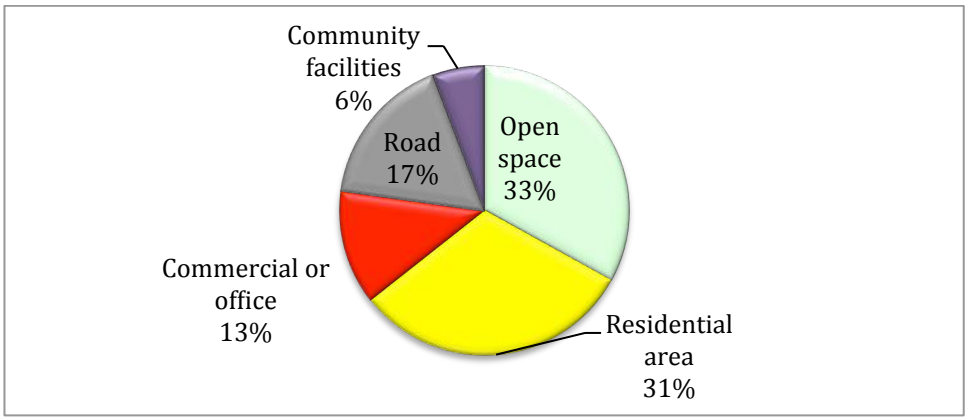

Figure 3.13 Land use for Vauban

3.4.4 Comparison between new settlements in Europe

To understand better the characteristics of European new human settlements, Adamstown, Vathorst, Derwenthorpe, and Vauban are compared, using a set of indicators. These indicators have been divided, first, to focus on the area, size and density; and secondly, to compare land use. The first section includes four key indicators for comparison between new human settlements in Europe. The land use comparison includes five indicators.

- Open space
- Residential area
- Employment area including commercial and office space
- Community facilities
- Roads

First indicator: Housing units

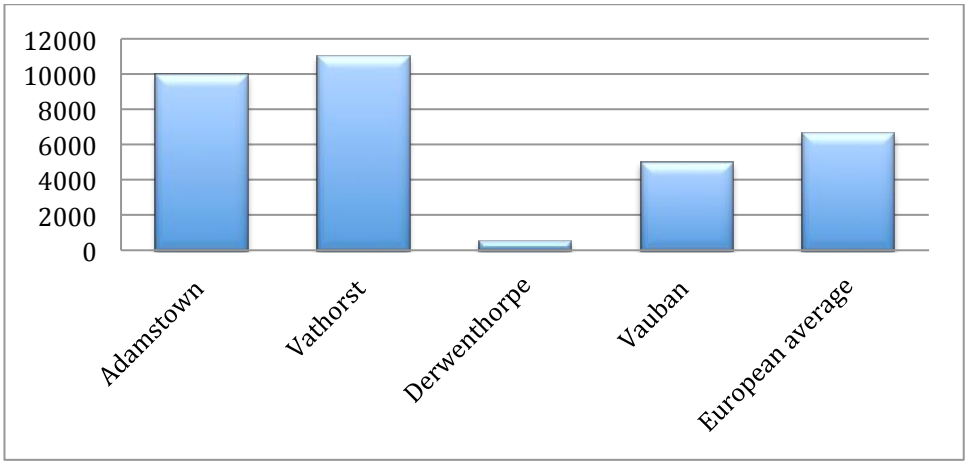

Figure 3.14 Housing units as a comparative factor between European new human settlement examples.

Adamstown and Vathorst have been planned to provide more than 10,000 housing units, which is more than the sample European new human settlement average. Vauban has been planned to accommodate about 5,000 units, which is below the sample European new human settlement average.

Derwenthorpe has been planned to accommodate about 540 units.

Second indicator: Land size

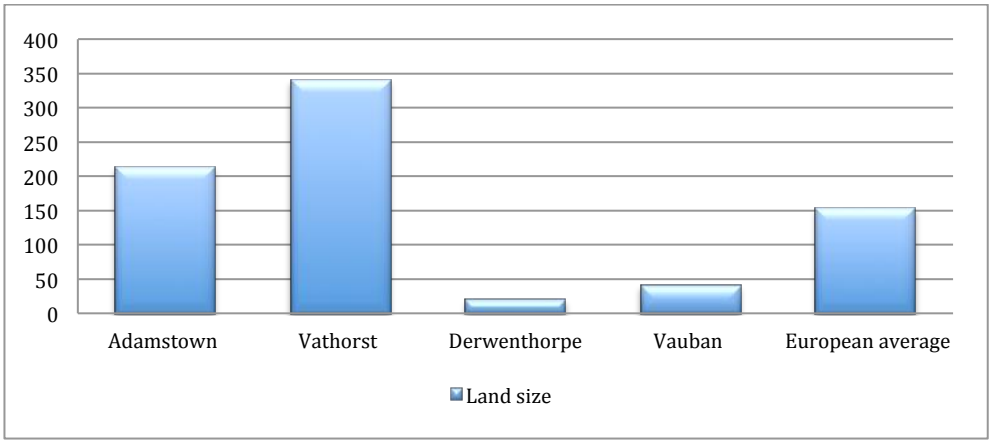

Figure 3.15 Land size as a comparative factor between European new human settlement examples.

Adamstown and Vathorst have been planned on large sites that are more than 200 hectares. This is greater than the sample European new human settlement average. On other hand, Vauban and Derwenthorpe have been planned on a site of less than 41 hectares, which is below the sample European new human settlement average.

Third indicator: Density

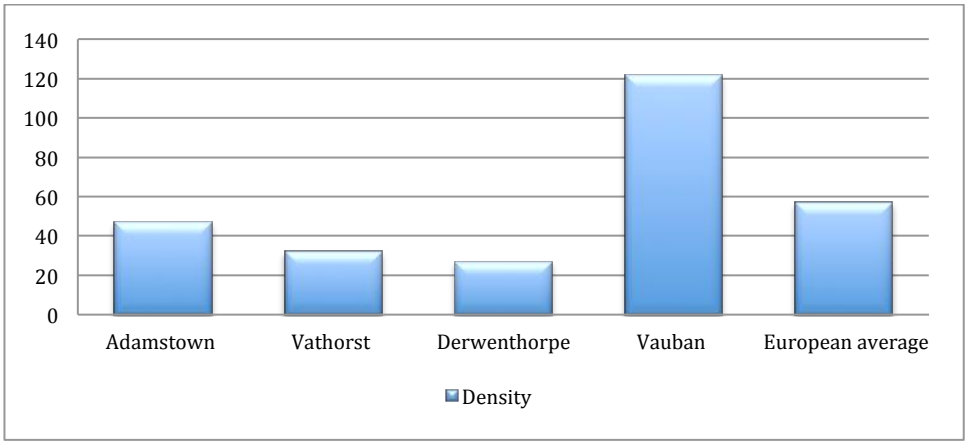

Figure 3.16 Density as a comparative factor between European new human settlement examples.

Adamstown was planned with fewer than 47 dwellings per hectare. Vathorst was planned with 32.3 dwellings per hectare. Derwenthorpe was planned

with fewer than 27 dwellings per hectares, below the average for the sample European new human settlement average. In contrast, Vauban was planned with more than 121.9 dwellings per hectare, which is a level of density higher than the sample European new human settlement average.

Fourth indicator: Distance

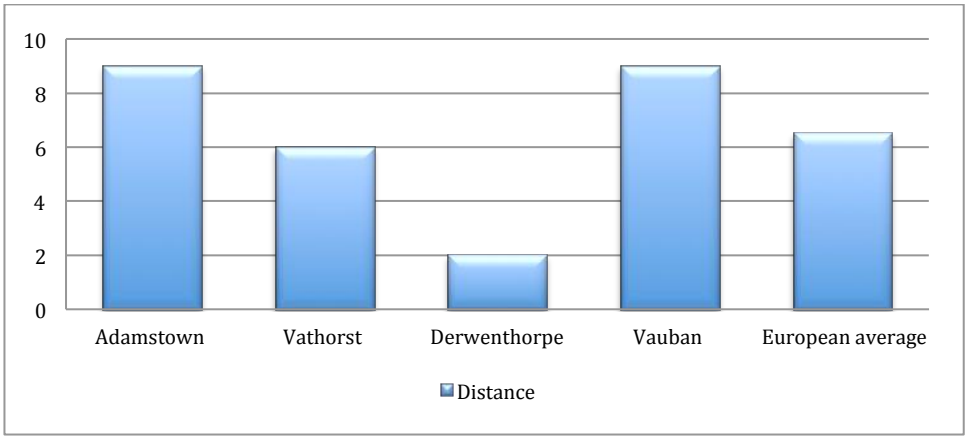

Figure 3.17 Distance from nearest city as a comparative factor between European new human settlement examples.

Vathorst and Derwenthorpe located close to nearest city, which is close to the sample European new human settlement average. Adamstown and Vauban were located far from the nearest city, which is above the sample European new human settlement average.

Land use comparisons

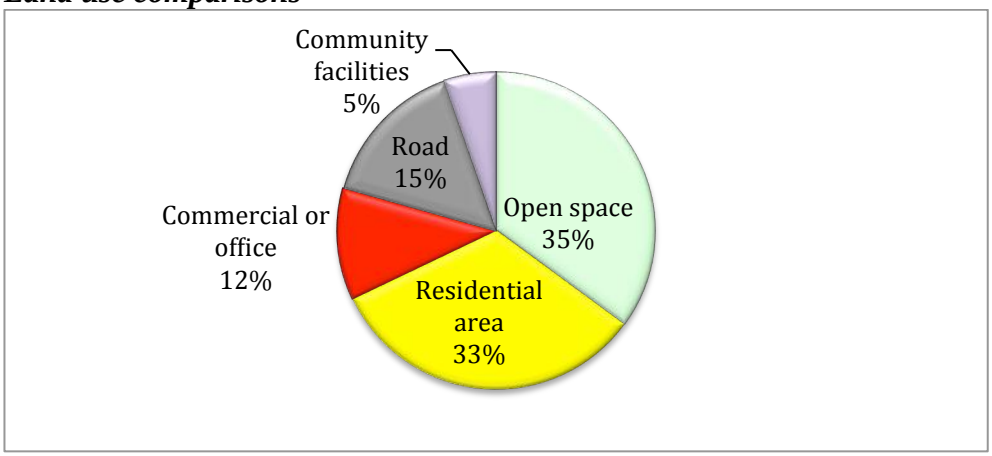

Figure 3.18 The average of land used as a comparative factor between European new human settlement examples.

First indicator: Open space

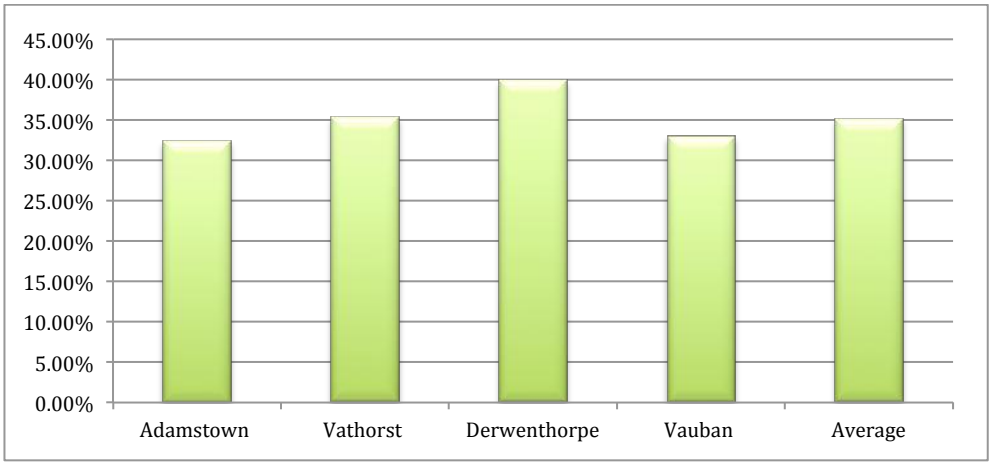

Figure 3.19 Open space as a comparative factor between European new human settlement examples.

Land allocated for open space in Adamstown and Vauban is less than 33 per cent, which is below the sample European new human settlement average. In contrast, the land allocated for residential use in Vathorst and Derwenthorpe is more than 35 per cent, above the sample European new human settlement average.

Second indicator: Residential area

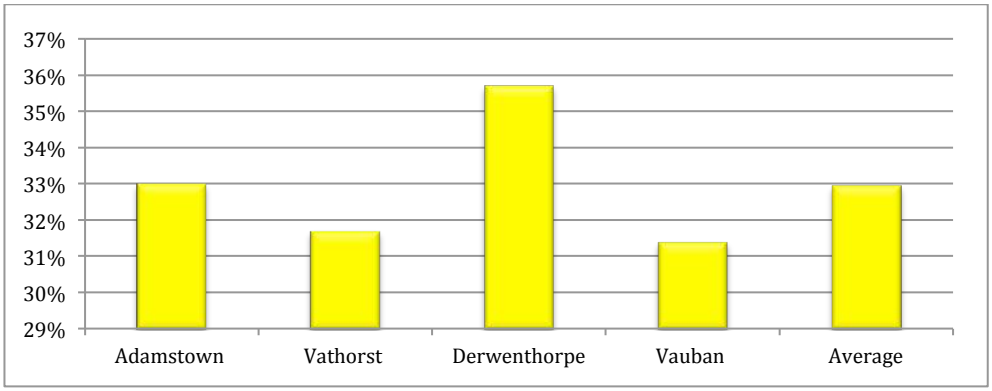

Figure 3.20 Residential area as a comparative factor between European new human settlement examples.

Land allocated for residential use in Vathorst and Vauban is less than 32 per cent. This is below the sample European new human settlement average. Land allocated for residential use in Adamstown and Derwenthorpe is, in

contrast, more than 33 per cent above the sample European new human settlement average.

Third indicator: Commercial or office space

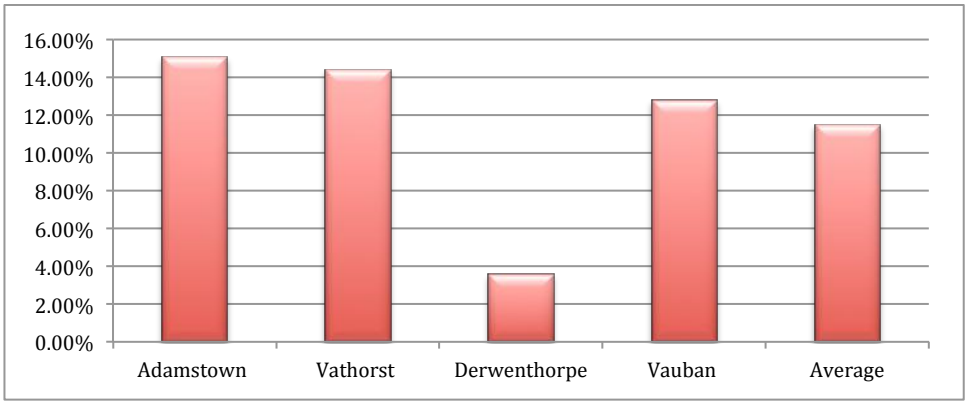

Figure 3.21 Employment area as a comparative factor between European new human settlement examples.

Adamstown, Vathorst and Vauban have allocated more than 12 per cent of their total areas for employment sites, which is above the sample European new human settlement average. Derwenthorpe has allocated less than four per cent of its total area for employment sites, below the sample European new human settlement average.

Fourth indicator: Road and transportation

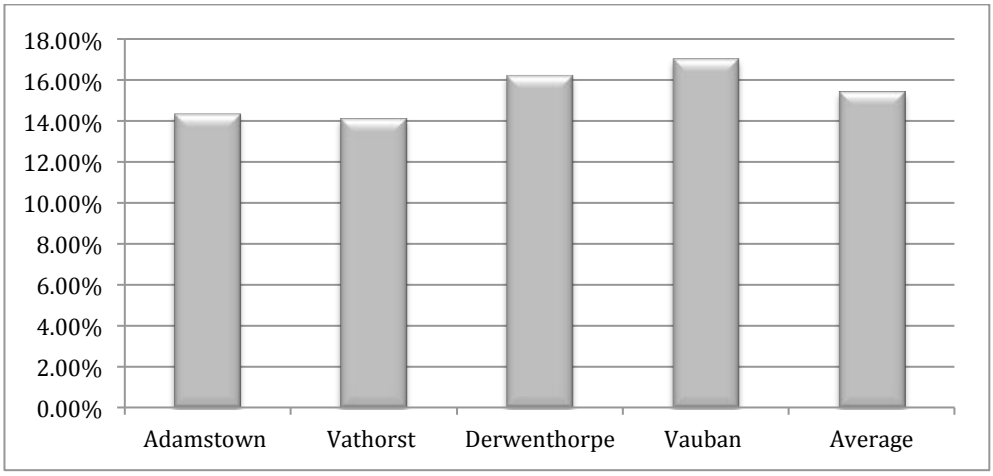

Figure 3.22 Road and transportation as a comparative factor between European new human settlement examples.

Derwenthorpe and Vauban have allocated more than 16 per cent of their

total areas for the construction of roads. Adamstown and Vathorst have allocated less than 14.3 per cent. The figures for Derwenthorpe and Vauban are above the sample European new human settlement average, whilst those for Adamstown and Vathorst are below.

Fifth indicator: Community facilities

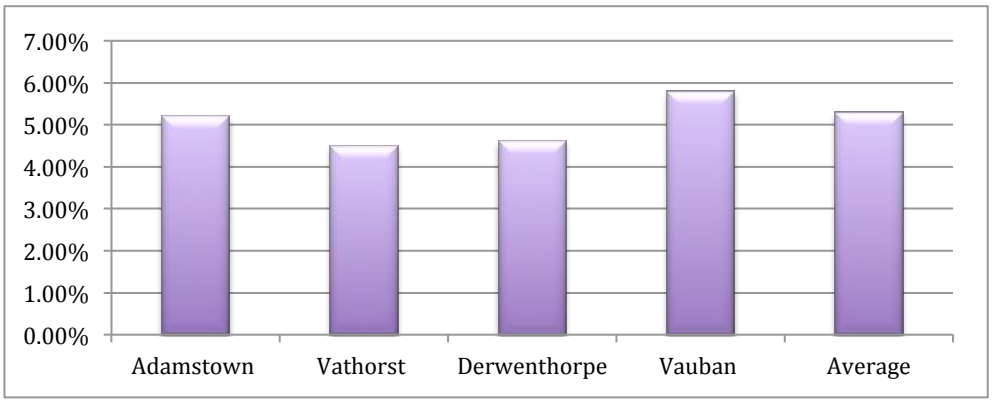

Figure 3.23 Land used for community facilities as a comparative factor between European new human settlement examples.

Representing a figure below the sample European new human settlement average, Adamstown, Vathorst and Derwenthorpe have allocated less than 5.2 per cent of their total areas for the construction of community facilities. In contrast, with more than 5.98 per cent of their total areas thus allocated, the figures for Vauban are above the sample European new human settlement average.

3.5 Asian new human settlements

3.5.1 Putrajaya in Malaysia

Putrajaya is the largest development project since Malaysia gained independence. The idea started in 1993 to create new governmental administrative centres. There were three primary reasons for moving the administrative centre away from Kuala Lumpur. First, there was a need for

more land and a high demand for office space. Secondly, available land in Kuala Lumpur was limited. Thirdly, there was a strong desire to relieve pressure on the city of Kuala Lumpur, as well as to improve the standard of living. Vision of 2015, the city plan for the city, is that Putrajaya will be a well-managed, vibrant, and prosperous Federal Administrative Capital that fulfils the socio-economic, recreational and spiritual needs of its residents, workers and visitors. In the early 1990s, six sites were considered for the location of the new administrative centre. The site was selected based on the following factors:

1. Land ownership and the cost of establishing the infrastructure.
2. Strategic location and easy access.
3. Site linked to major transport networks.
4. Availability of green areas.
5. The positive influence of neighbouring areas.
6. To minimise the negative impact of local communities.

By June 1993, the Perang Besar site was finally selected over the other five locations, due to its strategic location between Kuala Lumpur International Airport and Kuala Lumpur City, the lower development cost, and its surrounding natural environment.

Putrajaya is located between 12 and 15 miles from Kuala Lumpur and Kuala Lumpur International Airport. The vision for Putrajaya is to be a “garden-intelligent” city. In 1995, this was launched by the Prime Minister of Malaysia, Dr Mahathir, and Putrajaya was named after and in memory of the first Prime Minister of Malaysia, Almarhum Tunku Abdul Rahman Putra Al-Haj.

Planning for Putrajaya

Under the Town and Country Planning Act 1976, the Putrajaya structure plan was prepared in 1995. It included information and guidance on land use, planning, infrastructure, and socio-economic development. The structure plan provided a regional framework for Putrajaya city, which is controlled by Sepang District Council. The target was 570,000 people for the whole area; 250,000 people was the target for Putrajaya.

Putrajaya planning was based on integrating the two concepts of the garden city and the intelligent city. The garden city was applied for the physical aspect. The intelligent city concept was used for enhancing the infrastructure, management activities, and societal progress by using a technology infrastructure.

In the master plan, the precinct block is used as planning zones, which can be parcelled into several neighbourhood units. The city is divided into 20 distinct precincts by roads or green spaces. This was planned based on the neighbourhood planning concept: 18 distinct precincts, and a commercial and a public school. These 18 distinct precincts can be defined as a residential area. There is one government precinct, and the other precinct is used for wetland and utility (Moser, 2013).

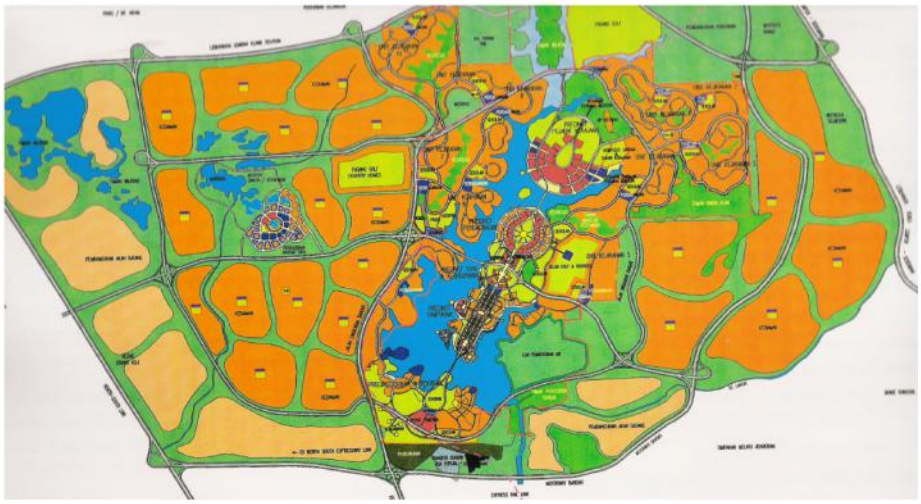

Figure 3.24 Putrajaya master plan (Moser, 2013).

The Malaysian government created a private company for implementing the project: “Putrajaya Holdings”. The land was owned by the government, then transferred to Putrajaya Holdings, which held agreement for the development. Putrajaya was completely planned, designed and developed by local Malaysian planners. The development was influenced by the idea of new capitals, such as Canberra (Australia). Putrajaya planned to attract civil servants and their families, students and businesses. Putrajaya faced many local challenges. There is a general perception in the community that the city is designed for government employees. Partnership with the population is needed in order to achieve the goal of the city being a green city. The city has also invested heavily in infrastructure (Moser, 2013).

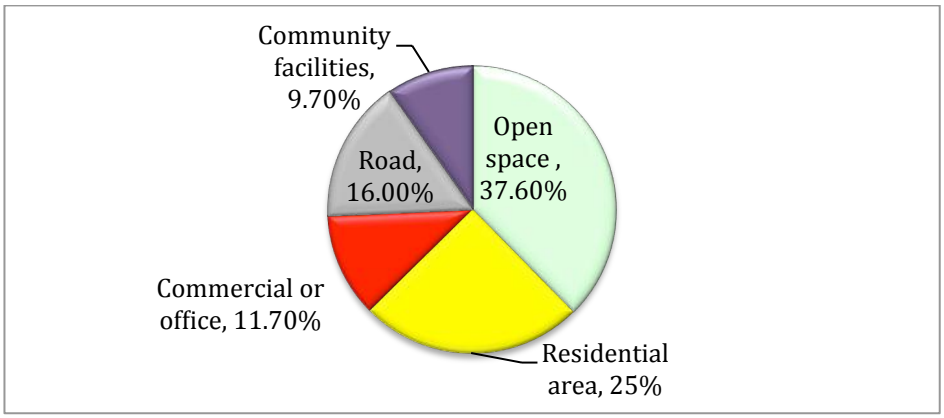

Figure 3.25 Land use for Putrajaya

3.5.2 Songdo in South Korea

Songdo was designed to meet a high standard of living and be an attractive place for international companies and investors. The development required the participation of the private sector and the public, as well as the aid of international expertise in marketing and developing the new city. The plan for Songdo was approved in November 2002 (Keeton, 2011; Moser, 2013).

Songdo is located about 15 minutes from New Songdo City to the Incheon International Airport. The city was tailored to meet the highest standards of living, provides jobs and housing, and hopes to attract residents and investors by providing the seed technology and infrastructure, lower taxes, and low rental housing. The project had full support from the local and the central government. The city is located in a special designated Free Economic Zone. Of the main challenges faced by the team in the planning of the city is that it was to be the first urban development project in Korea. Added to that, mistakes can be costly and affect the success of the project (Keeton, 2011; Moser, 2013).

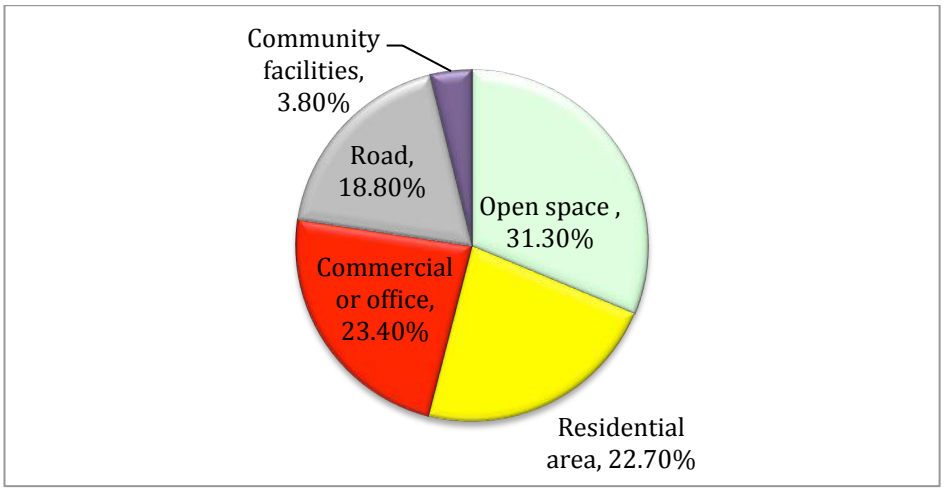

Figure 3.26 Land use for Songdo

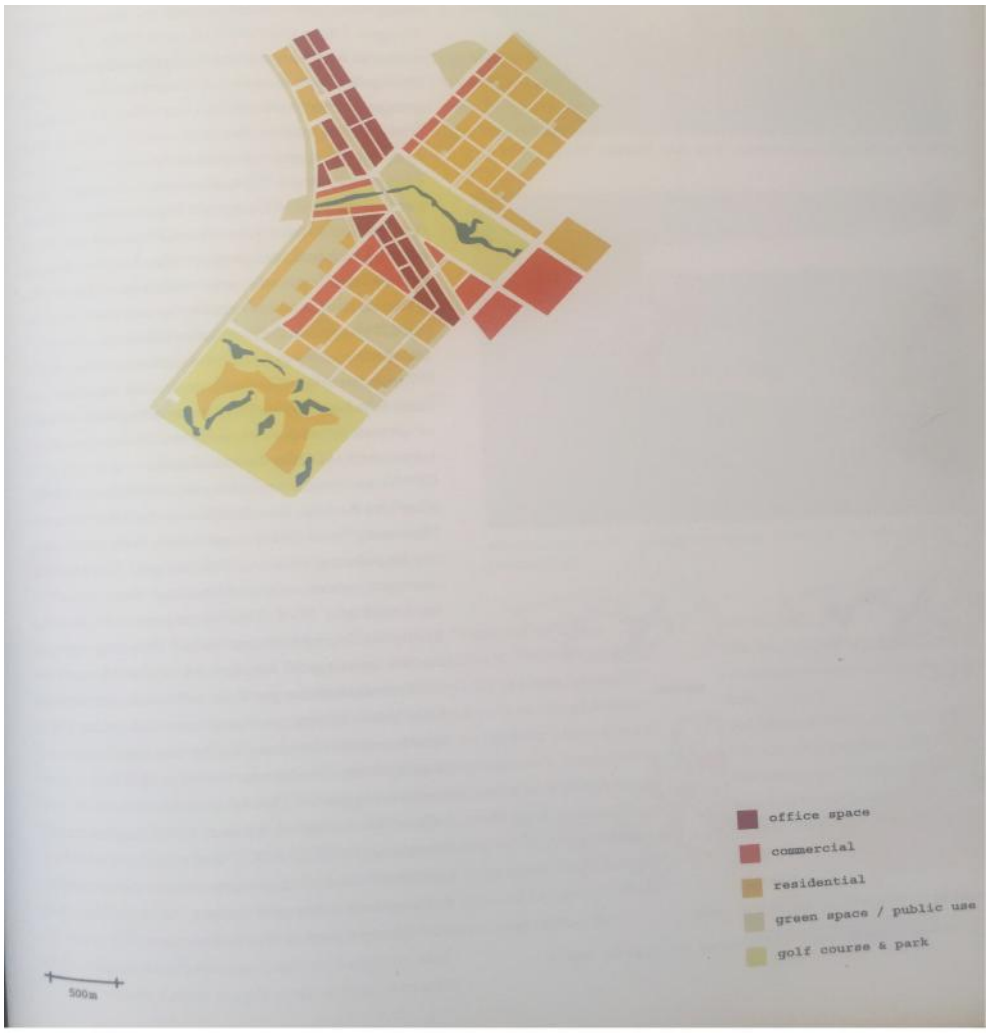

Figure 3.27 Songdo master plan (Keeton, 2011,p311)

The financing strategy for this was to create partnerships with different sectors, which included the City of Incheon, Gale International, Morgan Stanley Real Estate, Arup & Partners, and others. The city was planned by foreign companies. Songdo was planned with limited damage to the environment. Korean standards and leadership in energy and environmental design were used in all major buildings. The design also provided for bicycle lanes on footpaths and the city provided electric vehicles for the residents (Moser, 2013).

The principle of Songdo was based on new urbanism, smart growth, transit-oriented development and green growth. The city has four universities and a free economic zone; Songdo seeks to attract banks; tech companies, multinational and domestic corporations to its international business district. Songdo was planned to respond to the overcrowded and expensive conditions of Seoul, as an alternative place to live, offering a comfortable place for international business people and their families. It established a national policy to attract foreign business. The government intended to simplify citizen services. It provided international schools and Songdo Global University and foreign medical facilities, a high quality infrastructure and high speed Internet, and free tax for all investments within the city. There are local challenges as a result of the location: Songdo is too close to Seoul, as there is some evidence that it seems to be becoming a bedroom community (Moser, 2013).

3.5.3 Tianjin in China

The project is a collaboration between the Singapore government and the Chinese government under the Framework Agreement, which was signed in November 2007. The Tianjin Eco-city's vision is to be ‘a thriving city which is socially harmonious, environmentally-friendly and resource-efficient – a model for sustainable development’ (Tianjin, 2014). This vision was designed by the concepts of “Three Harmonies” and “Three Abilities”. The Three Harmonies refer to social harmony, economic vibrancy, and environmental sustainability. The Three Abilities are practicable, replicable, and scalable. This means that all of the principles, techniques, and technologies used in Tianjin should be affordable and commercially viable,

and there should furthermore be a possibility of applying these principles in China or in other countries. In terms of scalability, the principles can be transferred into different scales for development (Keeton, 2011; Tianjin, 2014).The main criteria for the selection of sites was that they were not occupied arable land or suffering from a lack of water. After the application of these standards, four sites could be used: in Baotou, Tangshan, Tianjin municipality, and Urumqi. The city's location was selected taking into account the cost of infrastructure, accessibility, and commercial viability. The eco-city is located 24 miles from Tianjin city centre and 93 miles from Beijing city centre. It is located within the Tianjin Binhai New Area – one of the fastest growing regions in China (Keeton, 2011).

Figure 3.28 Tianjin master plan (Keeton, 2011,p77)

The main planning principles applied in the master plan can be summarised as compact, transit-oriented development (TOD) and a mix of land uses. The design gave priority to pedestrians, bicycles, and public transport by separating them to minimise conflict between them. The master plan includes an axis, three centres, and four districts. The axis is the green spine of the city, which links to the city centre, the two sub-centres, and the four districts, which contain several neighbourhoods.

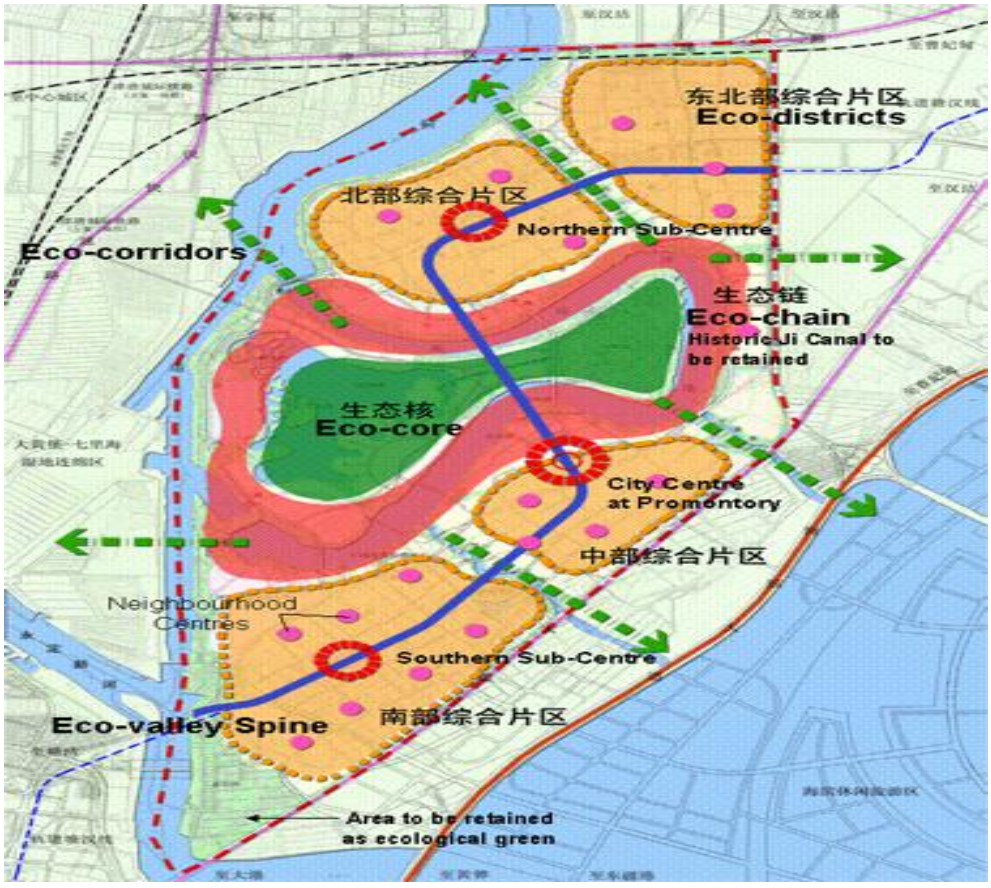

Figure 3.29 Tianjin concept (Tianjin, 2014)

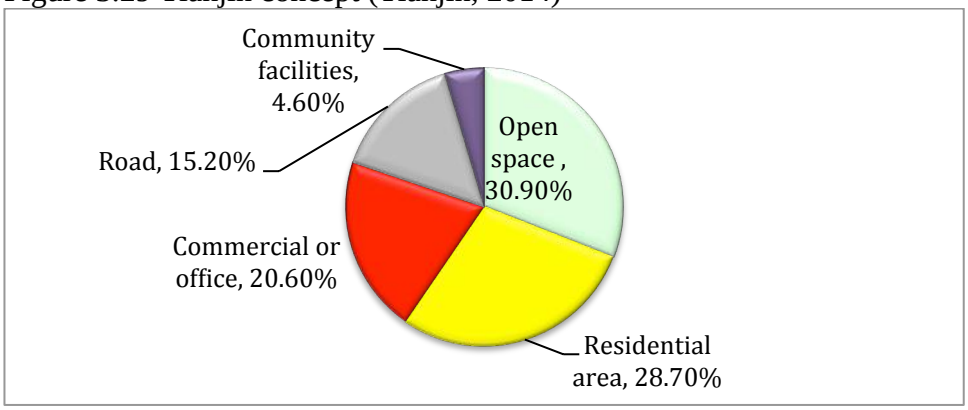

Figure 3.30 Land use for Tianjin

Eco-cells are small units in the master plan, about 400 metres square, which is accepted as a comfortable walking distance. Four eco-cells make an eco-neighbourhood; several eco-neighbourhoods come together to form an eco-district (Keeton, 2011).

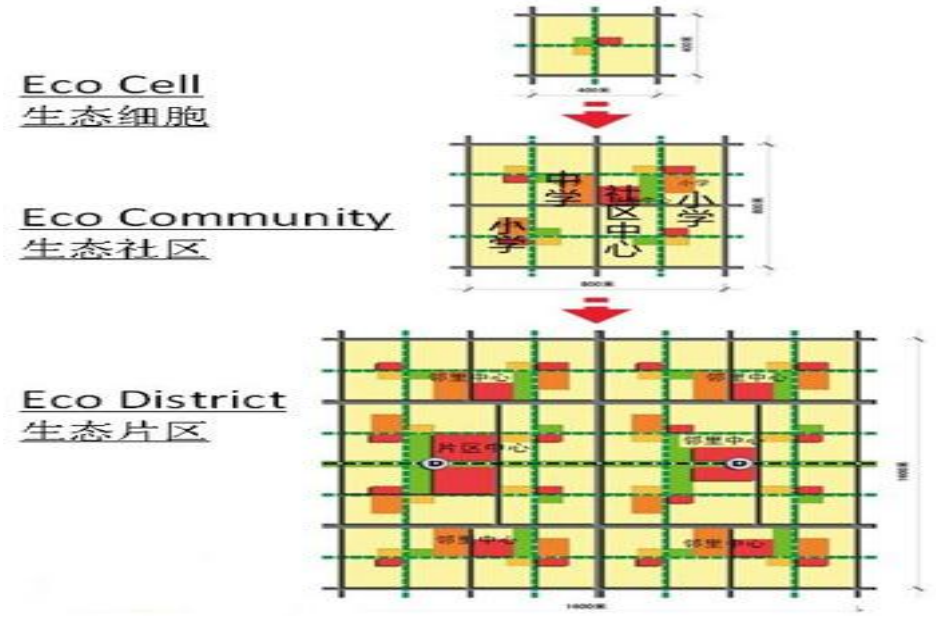

Figure 3.31 Tianjin units (Tianjin, 2014).

The planning and development of Tianjin is guided by key performance indicators (KPIs), which cover ecological, economic, and social development. The prevailing best international practices and the local conditions in Tianjin were also taken account. There are 22 quantitative and four qualitative KPIs. The start-up area and the entire eco-city were targeted for completion by the end of 2013 and 2020 respectively. It is for this reason that reference is made to these years in the KPIs.

Quantitative KPIs include a good natural environment, a healthy balance in the man-made environment, good lifestyle habits and the development of a dynamic and efficient economy (Tianjin, 2014).

Figure 3.32 Tianjin quantitative KPIs (Tianjin, 2014).

3.5.4 Masdar City in the United Arab Emirates

Masdar City is a new settlement located near Abu Dhabi. It is planned as a mixed land used development of 590 hectares. Masdar will accommodate 90,000 people (40,000 residents and 50,000 commuters) (Keeton, 2011).

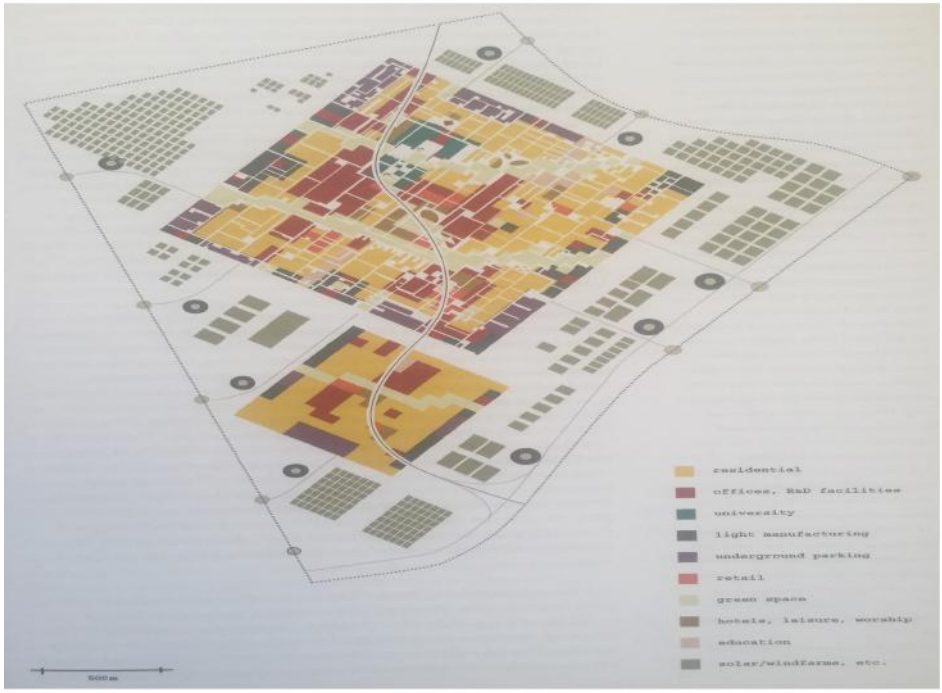

Figure 3.33 Masdar City master plan (Keeton, 2011,53)

Masdar City has a master plan which encourages walking, as well as an integrated public transport system. Masdar City is planning to offer the highest quality of place that provides a satisfactory work and living experience with a low impact on the environment. Masder has low-rise buildings and is high density. Masdar City and its contractors are diverting up to 96 per cent of construction waste from landfill and are using it in the building of the city (Keeton, 2011).

Masdar City is intended to be one of the world's leading research and development hubs for renewable energy strategies and components based on the University of Masdar Institute of Science and Technology. The laboratories and light industry production facilities are to support the vision of the UAE to develop from a technology importer into a technology exporter with a focus on renewable energy technologies. This also reflects the government's approach to prepare the UAE for the era after oil (Keeton, 2011). A Masdar City master planner has utilised traditional Arabian city urban design and planning as strategies to address the desert climate. The reason for this is that traditional Arabian cities are compact and densely populated. They are also socially diverse places where people live and work in the same environs, and feature lively and enjoyable public spaces (Keeton, 2011).

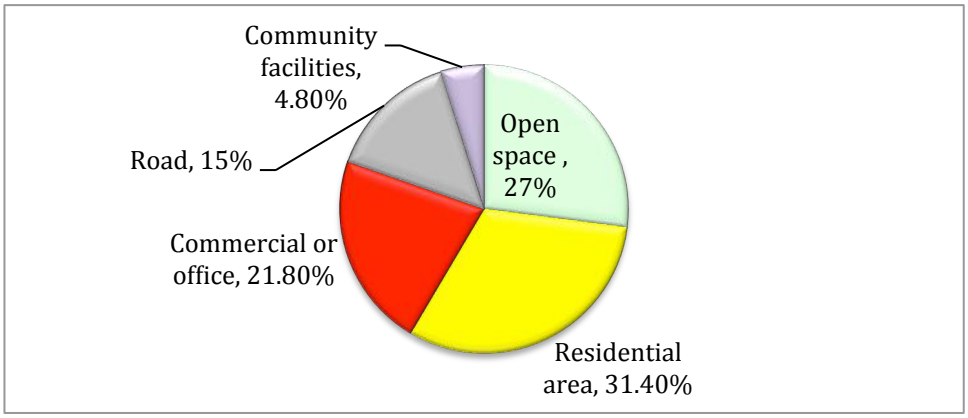

Figure 3.34 Land use for Masdar

3.5.5 Comparison between new settlements in Asia

In this section of the chapter, the characteristics of the sample Asian new human settlements, Putrajaya, Songdo, Tianjin, and Masdar are compared, using a set of indicators. These indicators have been divided, first, to focus on the area, size and density; and secondly, to compare land use. The first section includes four key indicators for comparison between new human settlements in Asian. The land use comparison includes five indicators.

- Open space
- Residential area
- Employment area including commercial and office space
- Community facilities
- Roads

First indicator: Housing units

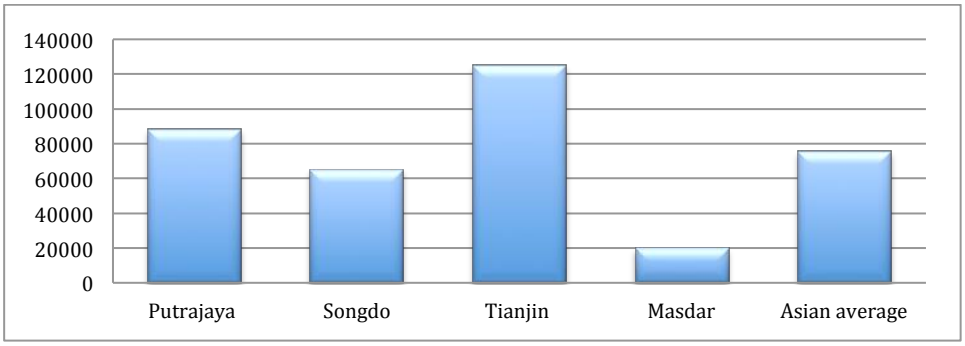

Figure 3.35 Housing units as a comparative factor between Asian new human settlement examples.

Putrajaya has been planned to provide more than 88,300 units, which is more than the sample Asian new human settlement average. Songdo has been planned to accommodate about 65,000 units, which is below the sample Asian new human settlement average. Tianjin has been planned to accommodate about 125,000 units, which is above the sample Asian new human settlement average. Madinah has been planned to accommodate about 20,000 housing units, which is below the sample Asian new human settlement average.

Second indicator: Land size

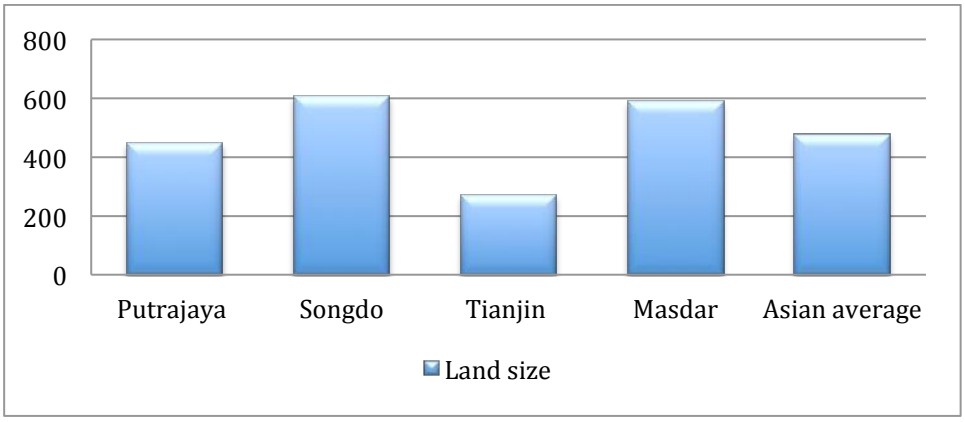

Figure 3.36 Land size as a comparative factor between Asian new human settlement examples.

Songdo and Masdar have been planned on large sites that are more than 600 hectares. This is greater than the sample Asian new human settlement average. On other hand, Putrajaya has been planned on a site of 446 hectares, which is below the sample Asian new human settlement average. Tianjin has been planned on a small site of about 270 hectares. This is close to the sample Asian new human settlement average.

Third indicator: Density

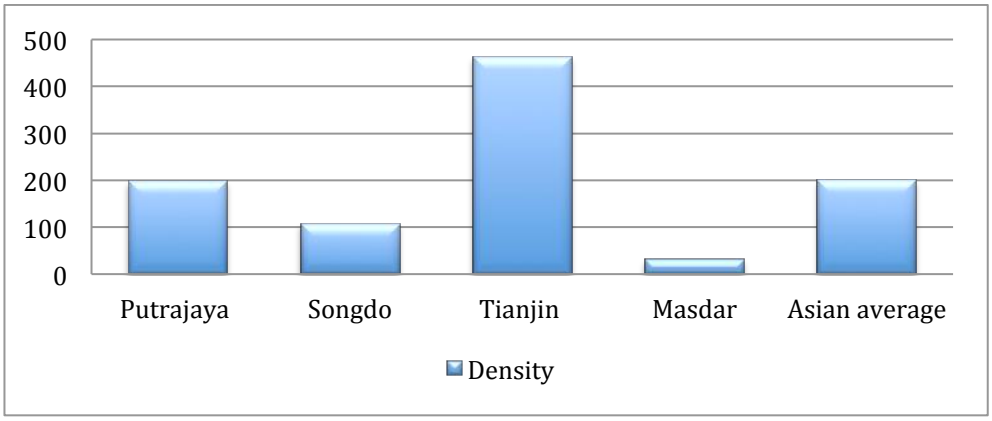

Figure 3.37 Density as a comparative factor between Asian new human settlement examples.

Putrajaya was planned with fewer than 200 dwellings per hectare. Songdo was planned with 107.1 dwellings per hectare. Masdar was planned with fewer than 32 dwellings per hectare, below the sample Asian new human settlement average. In contrast, Tianjin was planned with more than 472.9 dwellings per hectare, which is at a level of density higher than the sample Asian new human settlement average.

Fourth indicator: Distance

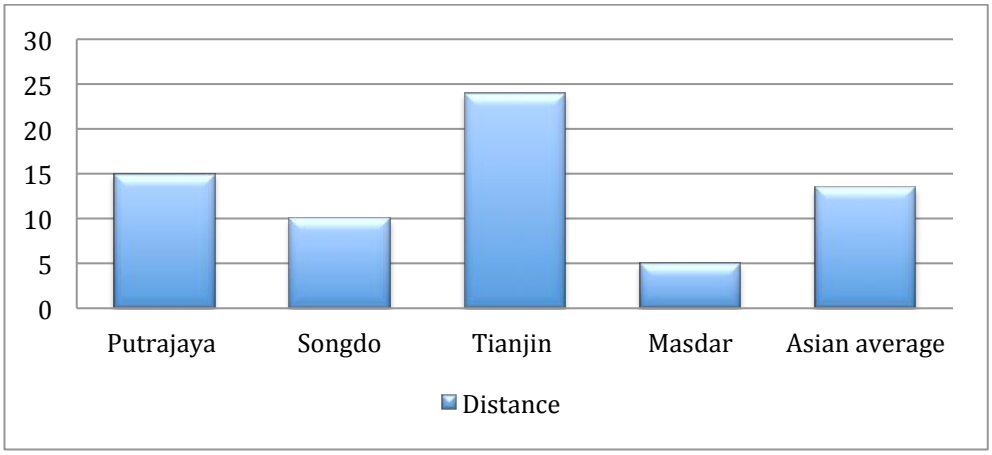

Figure 3.38 Distance from nearest city as a comparative factor between Asian new human settlement examples.

Tianjin is located 24 miles from the nearest city, which is more than the

sample Asian new human settlement average. Masdar is located five miles from the nearest city; Songdo is located ten miles from the nearest city, and Putrajaya is located less than 15 miles from the nearest city, which is below the sample Asian new human settlement average..

The second section compares land use

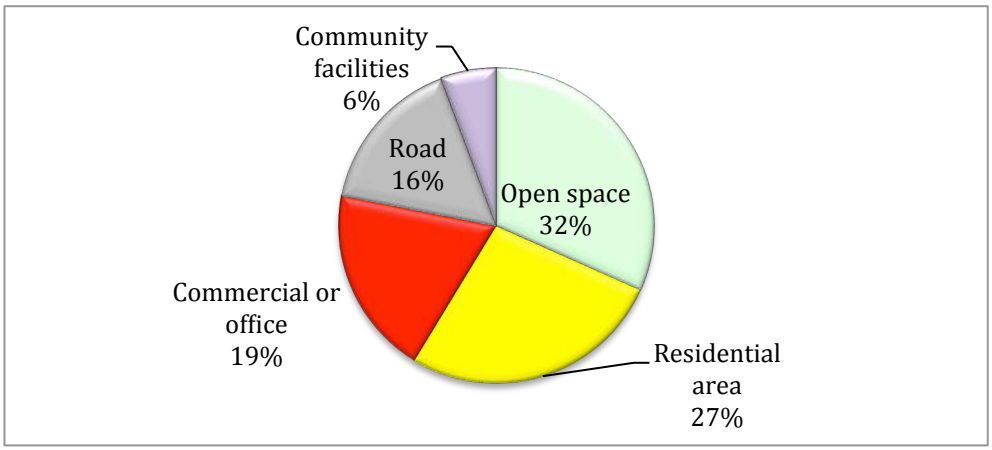

Figure 3.39 The average land use as a comparative factor between Asian new human settlement examples.

First indicator: Open space

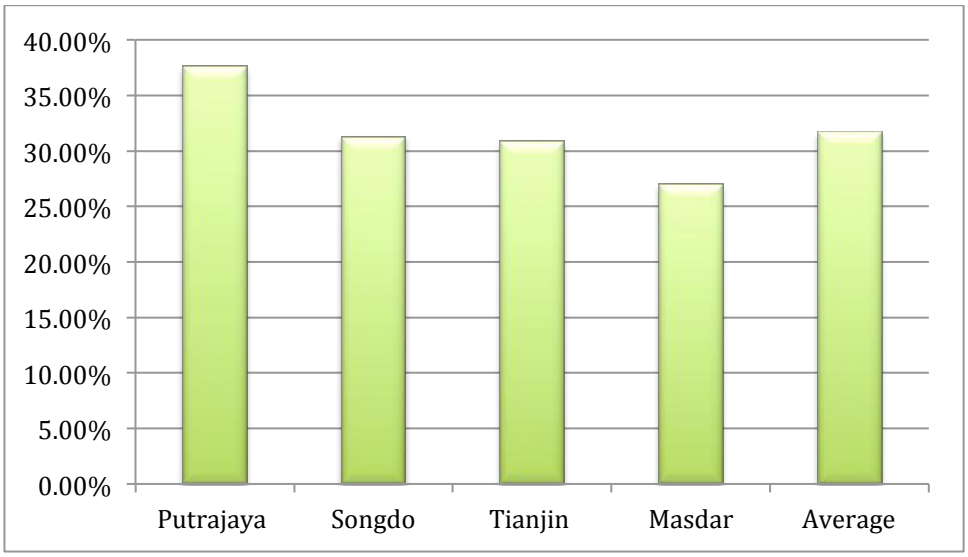

Figure 3.40 Open space as a comparative factor between Asian new human settlement examples.

Land allocated for open space in Masdar is less than 27 per cent, which is below the sample Asian new human settlement average. In contrast, the land allocated for residential use in Putrajaya is more than 37 per cent, above the

sample Asian new human settlement average. On other hand, land allocated for open space in Songdo and Tianjin is about 31 per cent, which is close to the sample Asian new human settlement average.

Second indicator: Residential area

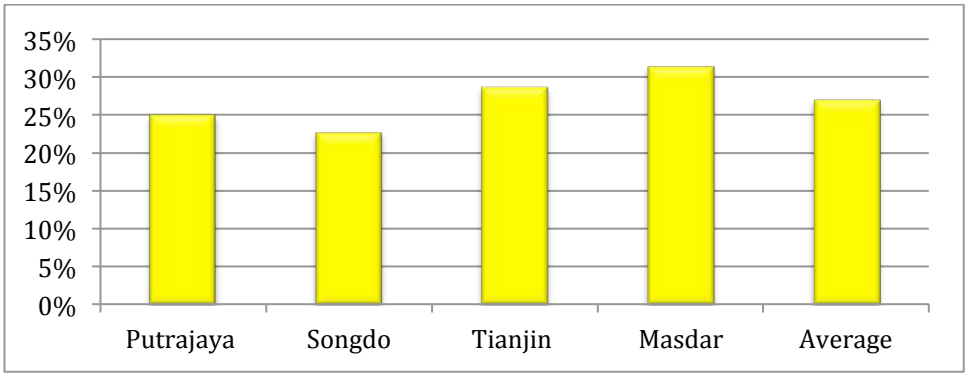

Figure 3.41 Residential area as a comparative factor between Asian new human settlement examples.

Land allocated for residential use in Putrajaya and Sondo is less than 25 per cent. This is below the sample Asian new human settlement average. Land allocated for residential use in Tianjin and Masdar is, in contrast, more than 29 per cent, above the sample Asian new human settlement average.

Third indicator: Commercial or office space

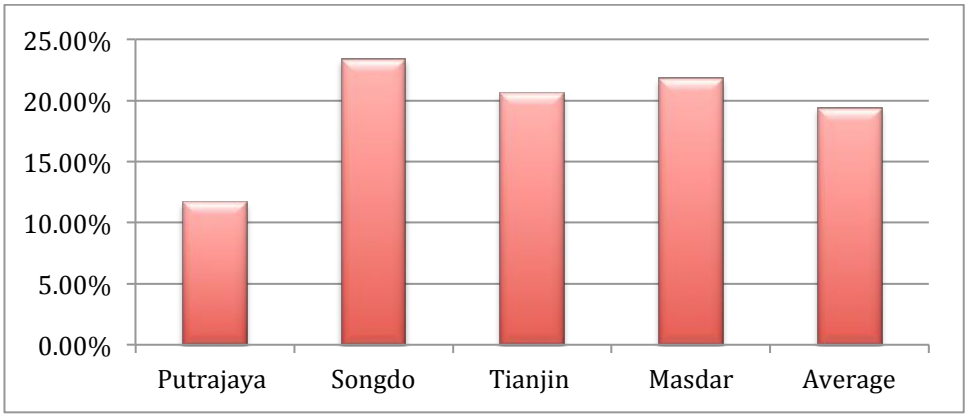

Figure 3.42 Employment area as a comparative factor between Asian new human settlement examples.

Songdo, Tianjin and Masdar have allocated more than 20 per cent of their total areas for employment sites, which is above the sample Asian new

human settlement average. Putrajaya has allocated less than 12 per cent of their total areas for employment sites, below the sample Asian new human settlement average.

Fourth indicator: Roads and transportation

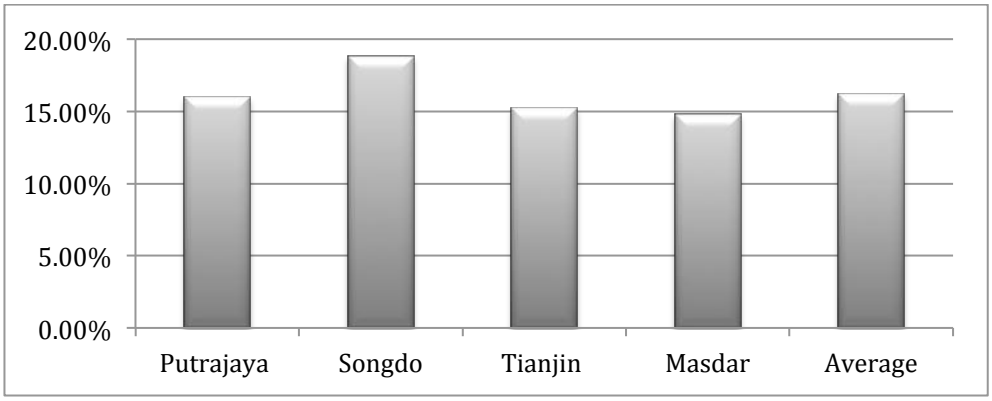

Figure 3.43 Road and transportation as a comparative factor between Asian new human settlement examples.

Songdo has allocated more than 18 per cent of its total area for the construction of roads. Putrajaya has allocated more than 16 per cent. Tianjin and Masdar have allocated less than 15.2 per cent. The figures for Songdo are above the sample Asian new human settlement average, whilst those for Putrajaya, Tianjin and Masdar are below, depicted in the information below.

Fifth indicator: Community facilities

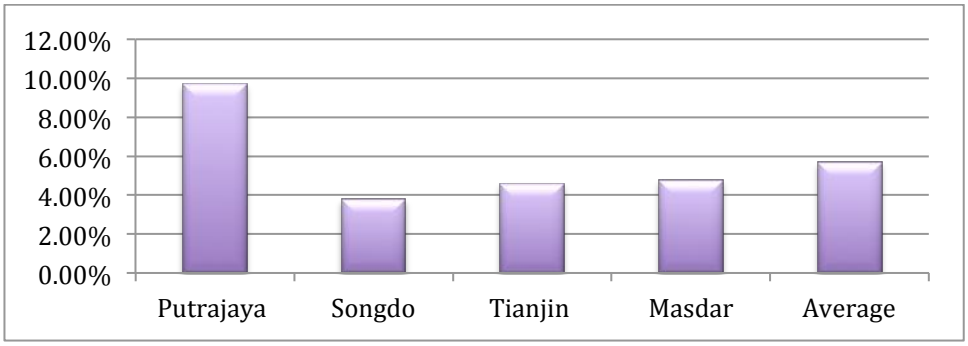

Figure 3.44 Land used for community facilities as a comparative factor between Asian new human settlement examples.

Representing a figure below the sample Asian new human settlement

average, Songdo, Tianjin and Masdar have allocated less than 4.8 per cent of their total areas for the construction of community facilities. In contrast, with more than nine per cent of their total areas thus allocated, the figures for Putrajaya are above the sample Asian new human settlement average.

3.6 Lessons learned from the new settlements examples

1. The first lesson that has been learned is that the new settlements must have a goal of building and carrying a vision.
2. New settlements must be a collection of residential neighbourhoods or smaller units, a city centre and two sub-centres, and a number of districts that contain several neighbourhoods. Small eco-cells are used as units in the master plan, at about 400 metres square, which was accepted as a comfortable walking distance. Four eco-cells make an eco-neighbourhood, and several eco-neighbourhoods come together to form an eco-district.
3. The new settlement needs to offer a range of densities; the good practice show it is required more than 35 dwellings per hectare.
4. The partnership between the private and the public sectors could be seen as an effective approach, supporting public sector investment by providing low rates of bank interest.
5. It is very important that the site of the new settlement connects to existing settlements to shire the benefit of the development .
6. The new settlement has to be an economical working environment to create jobs, and be an attractive place for international companies and investors.

7. To develop houses and public facilities together, makes the public facilities ready to use from day one, allowing for a more attractive environment. Critically, this decreases the need for residents to continue using private transport, or for them to return to old leisure or shopping habits outside the settlement.
8. Special policy is needed for development, and the new settlement requires an obligatory legal agreement to ensure the success of these settlements.
9. The site must link to major transport networks, in order to reduce car use by encouraging walking and cycling, as well as the use of public transport. This could be achieved through public and private sector partnership.
10. A mix of land uses and activities helps to create a highly desirable living environment.
11. Minimising the negative impact of local communities is a critical priority.
12. The project has to have the full support of the local and the central government, as a public/private integrated approach diminishes delays and obstacles.

3.7 Mechanisms for the transfer of new settlement as planning ideas

New settlements as planning ideas have been spread in a number of different ways. The first category is ‘imposition’ (through authoritarianism, contestation or consensus) and the second category is ‘borrowing’ (through synthesis, selection or uncritical reception); both are based on the relationship between the exporting and importing country as the key factor

for the way to transfer planning ideas. However, planning ideas can also be transferred by travelling planning consultants, policymakers or other influential people, or scientific articles or books. This process of transmission affects new settlements as planning ideas themselves are often varied and contested, and can be articulated in different ways from the contexts to which they were imported. The main conduits for the transfer of planning ideas have been colonial governments, educational and scientific institutions (including lecture tours and international conferences), professional associations and journals, and international development agencies and consultancies.

3.7.1 Government-to-government partnership

Idea transfer can occur through government-to-government partnerships or similar relationships. In the past colonialism has been described as a directly transferable tool for new settlements, as planning ideas in countries which had been colonised are entrenched when the colonial power takes control of urbanisation processes and the urbanising population. Despite the fact that many foreign professionals may have left the colonised country, the ideas remain. Projects that were started in the colonial period may be completed after independence, which means that their success can be interpreted as the success of the new government, thereby perpetuating the planning ideas of the previous (colonial) administration. Today, planning ideas for new settlements may transfer by other means, including formal relationships between countries, such as the UK-China Eco-cities & Green Building Group which was launched in March 2010. The Sino-Singapore Tianjin Eco-city is another result of a collaborative agreement, in this case between

the governments of China and Singapore. The Kingdom of Saudi Arabia has formed a relationship with Malaysia, particularly with regard to investment in Jazan economic city.

3.7.2 Educational and scientific institutions

In the early twentieth century, some universities established town planning courses. For example, the first degree-based programme for planning was established in 1907 at the University of Liverpool in England and, in 1928, Harvard University founded a planning course. These programmes have attracted students interested in the discipline of planning, and promoted academic discourse on planning ideas and experiences.

3.7.3 International students

There has also been, over time, a flow of students from developing countries to study in institutions in developed countries. This was based on the assumption that degrees from such institutions were of higher quality and more prestigious. The lessons learnt by foreign students can then be applied, with or without modification and contextualisation, to the home countries of such students.

3.7.4 Learning from developed countries

Many universities in developed countries began to offer ‘international’ planning programmes to students from the developing world. While these considered developing contexts in a general way, the teaching philosophies, approaches and tools were usually derived from a developed world context. All of these mechanisms served to diffuse planning approaches from the developed to the developing world.

3.7.5 Associations, books, and media

Written materials and other forms of communication have formed a further mechanism for the transfer of modernist planning ideas. An organisation with a strong record for extensive use of this strategy is the Garden Cities Town Planning Association (GCTPA). Professional associations and the journals that they produce were, and continue to be, instrumental in transmitting Western planning ideas and schemes to other parts of the world.

3.7.6 Lecture tours and international conferences

International conferences, symposia, lectures and similar events also disseminate new planning ideas. At a national level, for example, the Ecocity World Summit 2013 in Nantes, France, discussed the challenges for eco-cities. Ecocity World Summits have been hosted by cities such as Shenzen (China), San Francisco (US), Adelaide (Australia) and Dakkar (Senegal), with the most recent having been in Dubai in 2015. In 2013, the Kingdom of Saudi Arabia hosted the conference entitled *New Cities: Opportunities, Visions and Challenges* in the City Quest/King Abdullah Economic City Forum, focusing on mega projects. These events allow high level intellectual discourse to promote the exchange of ideas.

3.7.7 Professional associations and journals

New settlements in general have travelled as idea through the role of organisations such as the Town and Country Planning Association and International Federation for Housing and Planning. Both play a key role in promulgating new settlements.

3.7.8 International development agencies and consultancies

In the past, since the colonial era in Africa and Asia, Western urban planning consultants have been active in transmitting Eurocentric planning models to other regions. Today international companies involved in planning for new settlements work in many different parts in the world. International consultancies have prepared master plans for new settlements, on the behalf of governments, private developers, and consortia that feather both public and private elements. Furthermore, the United Nations and the World Bank play role in facilitating the travel of ideas with regard to the concepts behind new human settlements, as well as non-profit organisation such as Ecocity Builders.

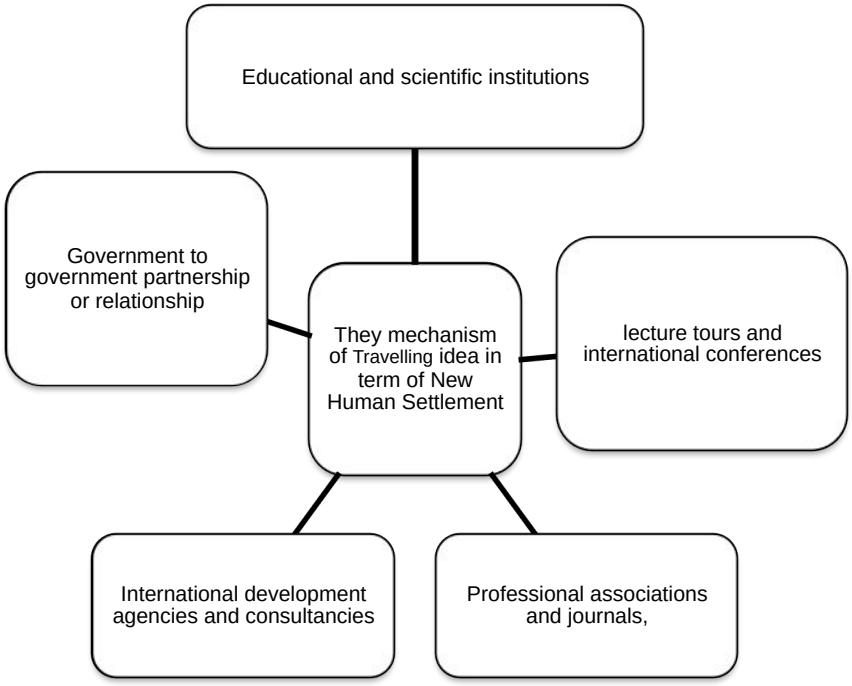

Figure 3.45 The mechanism of travel with regard to new ideas in new settlements (adapted from United Nations, 2014).

3.8 Ontology

The ontology of the new human settlement concept is to understand the definitions of the new human settlement concept, which are interpreted by different local city levels. The reality of the new human settlement concept is moulded by the experiences and interpretations of practitioners and participants involved in the planning of new settlements.

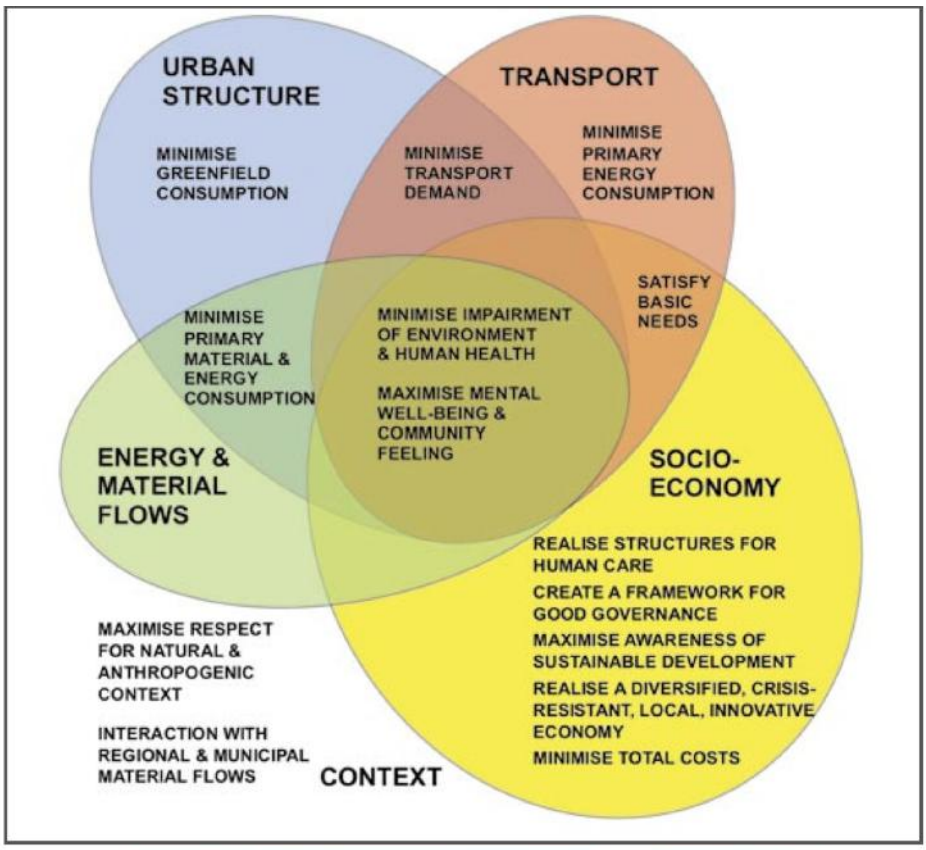

Figure 3.46 New human settlement themes and their elements (Gaffron et al., 2008, p. 18).

The ontological viewpoint of new human settlements could be investigated from four themes and their elements:

1. An urban structure indicates the physical settlement layout. Related aspects of new human settlements: demand for land, land use,

landscape/green space, urban comfort, public space, and buildings.

2. Transport indicates movement of people between settlements and within the settlement. Related aspects of new human settlements: public transport, individual motorised transport.

3. Energy and material indicates the movement or flow of energy and materials in space and through different urban and physical systems. Related aspects of new human settlements: energy, water, waste, building materials.

4. Socio-economy includes all human activities, regulating the social processes and economic life of the settlement. Related aspects of new human settlements: social issues, economy, costs.

3.9 Epistemology

In order to investigate the epistemology of the concept of new human settlements, it is important to discover the development of ideas by using the new human settlements framework, focusing on how this concept has been implemented at a local city level, and how to obtain knowledge of the definition of the new human settlements. This lies between theory and practice; it guides this research to an acknowledgment and understanding of the ideas of the participants, through which end data collection is conducted in practice, and helps to develop a predominately practitioner-based literature. The model is a broad ideal type. When applied and tested against particular local examples, there is a prospect that it can be adapted in terms of policy configuration and implementation. The framework provides a base for comparative research, and is used to analyse new human settlements as a

concept that became an international idea that crossed borders and cultures (Kantor and Savitch, 2005). The challenge of implementing new human settlements in different contexts and places needs a comparative methodology which is able to deal with different national aspects and cultural settings (Steinhauer, 2011).

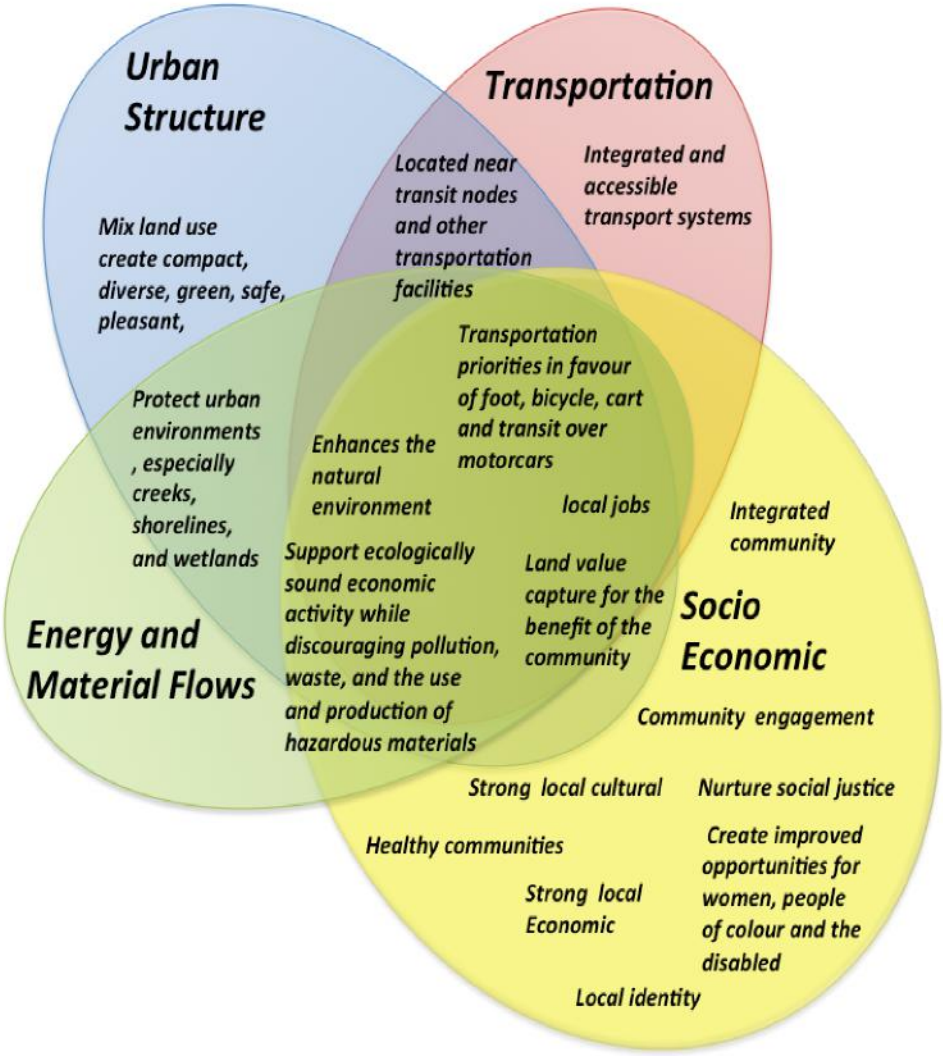

Figure 3.47 The links between the new human settlements principle with the sustainability objective

3.10 New human settlements principles:

Core principles for new human settlements

Core Principle One: Strong vision and strategy: new human settlements need strong vision and policy that describe how the countries planning to

accommodated the new human settlement in future. It should be for long time planning witch do not stop and does not change when governments change

Core Principle Two: A mixed land use, located near transit nodes and other transportation facilities.

Core Principle Three master plans need to set limits to growth for the new settlements. New settlement should by separated high way or green puffer.

Core Principle Four: Balance of jobs and residents: new human settlements must provide a full range of employment opportunities, aim to meet at least one job per new household, taking into account a reduction in the need to travel to work as far as is practicable.

Core Principle Five: The long-term stewardship of assets: Established corporation to administer the assets of new human settlements in the long term ought occur through the design and delivery process, re-investing profits back into new human settlements. It is essential that a plan for financing the maintenance and management of community assets is set out at an early stage and appropriate finance endowed to the long-term stewardship organisation.

Core Principle Six: Policy and land use strategies to limit real estate speculation. Land value capture for the benefit of the community: the profits can come from developing new human settlements; as a result of rising land values, there has to be a fair distribution to the community.

Contextual principles for new human settlements

Contextual Principle A: Integrated and accessible transport systems. Walking, cycling and public transport should be the most attractive and prioritised forms of transport in new human settlements. A safe network of footpaths and cycleways should be provided within new human settlements. Settlements should be located where there are rapid public transport links to major cities, or where real plans are already in place for its provision.

Contextual Principle B: Support ecologically sound economic activity while discouraging pollution, waste, and the use and production of hazardous materials. In addition, protect urban environments, especially creeks, shorelines, and wetlands. New human settlements have to plan to enhance the natural environment by protected biodiversity through master plans. This can provide a link between private and community gardens with wider public green and blue open space and ultimately with strategic networks of green infrastructure and habitat creation.

Contextual Principle C: Strong local cultural, recreational and shopping facilities in walkable neighbourhoods. Creating shared spaces for social interaction and space for both formal and informal artistic activities, as well as sport and leisure activities.

Contextual Principle D: Mixed-tenure homes and housing types that are genuinely affordable for everyone. At least 50 per cent of the homes that are classified as ‘affordable’ must be for social rent.

Contextual Principle E: A strategic approach is needed to plan for new human settlements to be well connected by public transport. A national

policy for new human settlements should consider how these settlements contribute to the nation as whole; how they relate to aspirations for a more balanced economy; to long-term climate resilience, and to new opportunities in industrial modernisation.

3.11 Implementation factors

3.11.1 Governance: Top-down or bottom-up approaches

Prescriptive rational planning utilises experts, so that they make their decisions and guidance on the basis of factual information and techniques. However, there is no role for the views of the public; it is an undemocratic planning method. Advocacy planning plays the role of a mediator between the politicians and the community. It looks for solutions compatible with the vision of the government and the community's needs and is a democratic approach.

In a top-down vs bottom-up hierarchy planning approach, two methods are used from the outset. In contrast, collaborative planning is an approach whereby all parties in the decision-making process communicate, and include all actors in the dialogue, allowing them to contribute to the decision-making process (Judge, Stoker and Wolman, 1995, in Allmendinger, 2002, pp. 8-9). New human settlements that are implemented through the planning system need a strategic plan as a requirement at a different level (national level, regional level or sub-regional level and local level). Different organisations have been identified for implementing processes for new human settlement concepts, including central government, local authorities, the local community and private sector.

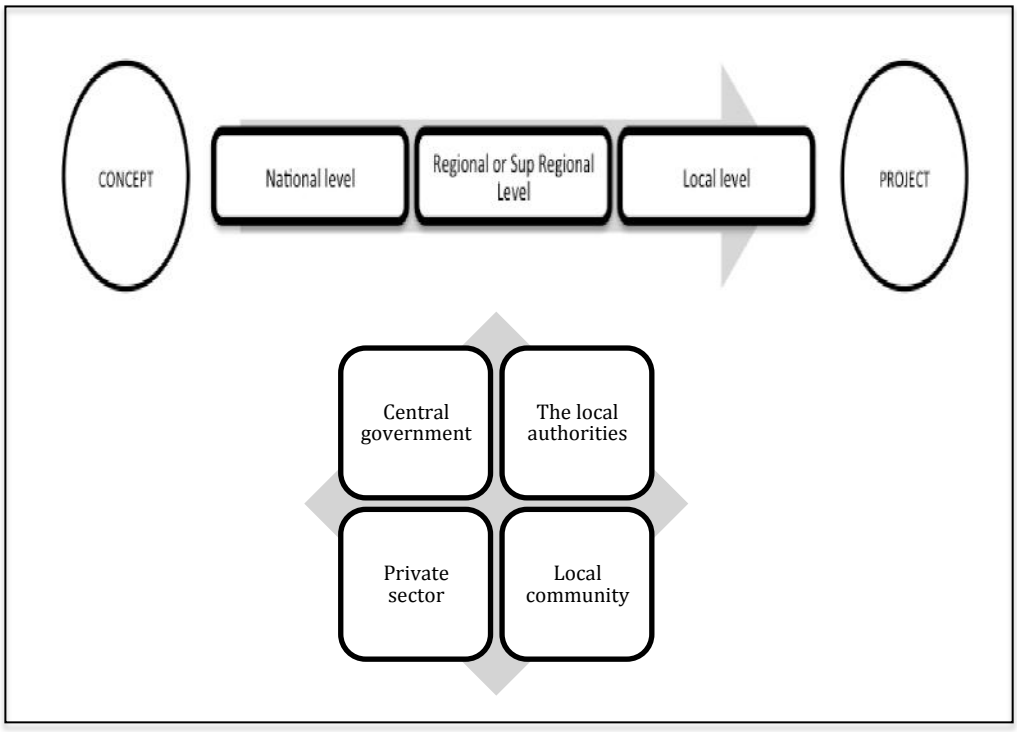

Figure 3.48 Implementing the new human settlement concept (adapted from TCPA , 2014).

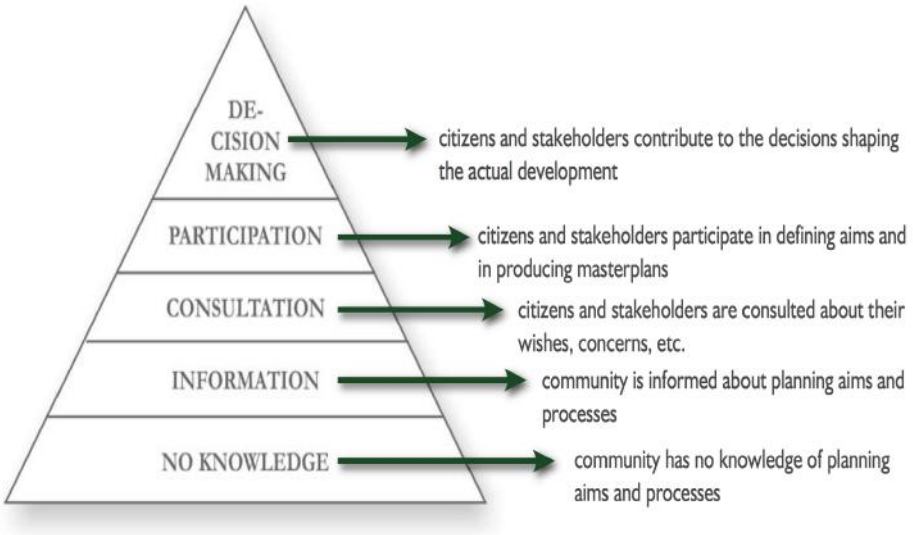

Figure 3.49 Involving the community in local decision-making (Gaffron et al., 2008, p. 18)

The implementation process 'involves multiple experiments, learning, failures, mistakes and a constant effort at adapting and refining our

methods' (Strange and Bayley, 2007, p. 29). Integrated planning (national, regional and local) is affected by the implementation of the new human settlements concept; different public and private sector stakeholders involved in new human settlements add more difficulty (Hall, 2011).

3.10.2 New human settlements finance and delivery mechanisms

1. Public: finance and development of new settlements by the public sector without the participation of the private sector in the financing.
2. Public/private: new settlement planning and development that includes the participation of both the public and private sectors. They share the cost of the development to reduce risks.
3. Private: new settlements financed and developed by the private sector.

3.10.3 Urban structure (location, size, population and density)

The key factors are location, size, density and mix of uses. Urban structures must achieve a balance between an expanded quality of life and being easily accessible. Urban and social facilities are necessary for residents to fulfil their needs and minimise resource consumption through transport and other activities. The location of new human settlements should be selected next to existing high quality public transport systems (rail, metro, tram, high-frequency bus services); if this is not possible it is necessary to extend existing systems to link new human settlements with other settlements. The planning process focuses on the interactions of the building environment and the transport system. Qualified high densities and size, to reduce land consumption and to deliver critical mass for a wide range of facilities in the settlement to allow for more sustainable transport systems. Urban density is

required to create space-saving urban structures, creating a wide-meshed balance of mixed land uses in settlements. Mixed land use (residential, education and employment zone) must provide a range of facilities in each neighbourhood, reduce the need for travel, provide open spaces and green areas as these are important for residents' physical and mental well-being, and provide a place for outdoor activities. One of its features is to improve the urban environment, by offering seasonal shading, wind shelter, flexible dampness levels, and trapping dust, and by managing rain water, as this is helpful in improving the quality of urban environments.

3.10.4 The planning process for new human settlements

This is a collaborative design task that includes different planning sectors. In general, the planning process for new human settlements can be divided in four stages, as described below.

1. Pre-planning: The goal of development is the first point; the second point is study and analysis. Site analysis is integrated into the wider environment and the region, as well as the local site. It is important to measure the local requirements of different interest groups from the local community at this stage.
2. Urban planning: The concept of the master plan should be designed in line with sustainable development. During this stage it is necessary to get feedback from local people.
3. Detailed planning: A detailed plan must be published for the community, in order to get feedback. The concepts of master plan describe the urban structure and transport.

4. Implementation: This instigates negotiations and decisions on the actions to be taken in accordance with the master plan. Monitoring progress is required during this, to evaluate the outcome and communicate it in order to get approval for the plan. These approaches provide more public and political support for the plan, extend the opportunities, and demonstrate a long-term perspective. There must be flexibility in the master plan so that it may e adapted or changed during the life cycle of the development.

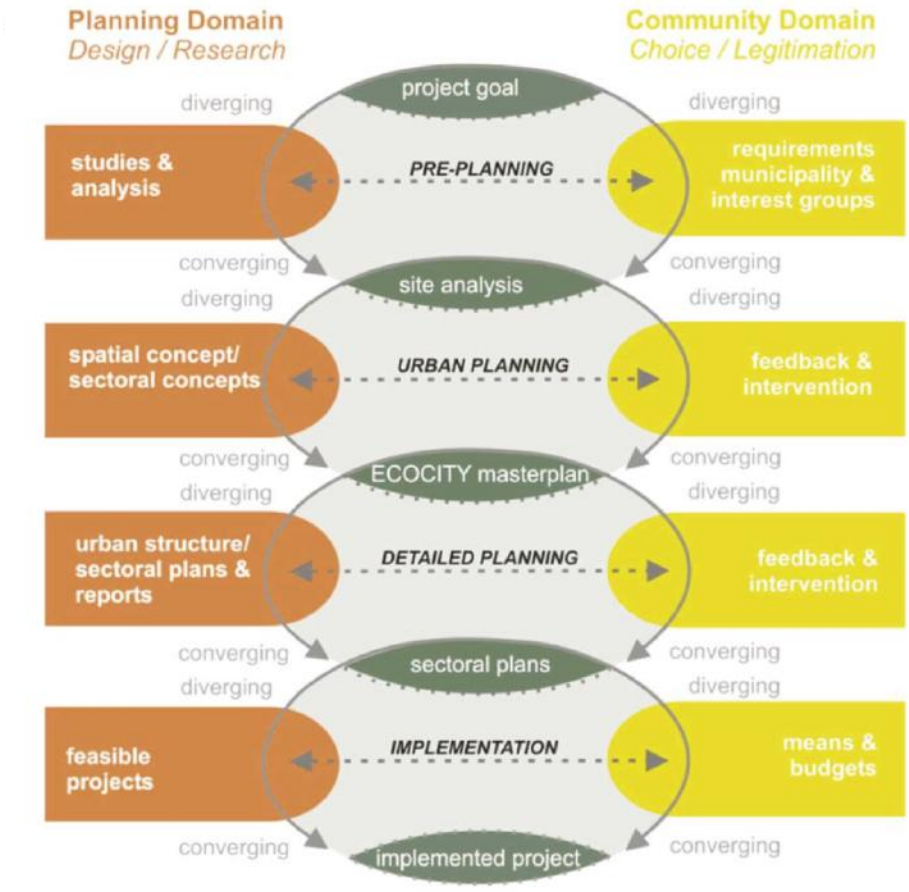

Figure 3.50 The planning process scheme (Gaffron et al., 2008, p. 18)

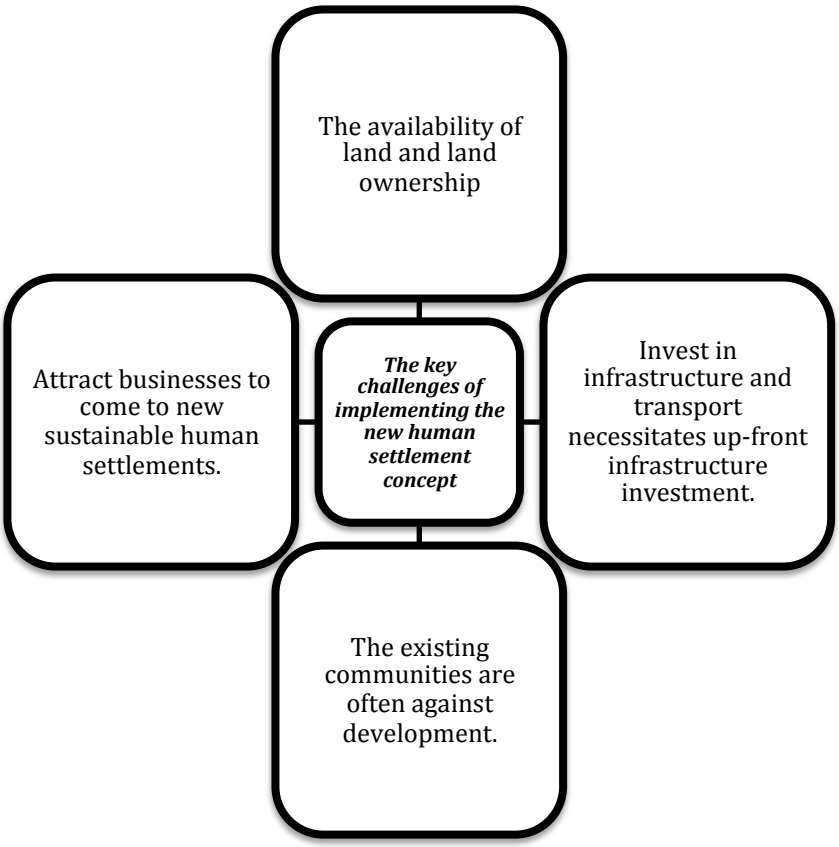

Figure 3.51 Implementing the new human settlement concept

Implementing a new human settlement presents four key challenges:

a. The availability of land and land ownership;
b. Investment in infrastructure and transport necessitates up-front infrastructure investment;
c. Existing communities are often against development; and
d. Need to attract businesses to come to new human settlements.

These key challenges are used as themes for investigating the case studies in order to identify the lessons learnt that face local government in implementing the new human settlements concept.

3.10.5 Policy /strategy /tool

By using this framework, the new human settlement policies, local action plan, and master plan that were used for implementing the new human

settlements concept are investigated. It is important to explore the role for central government and local government in the implementation process. The focuses are on the manner in which government defines and develops the concept of new human settlements, In this research, this is examined through case studies. The best way to do this is to select case studies in countries that have a national plan or programme for developing new human settlements, so that this can provide more evidence in terms of national policies.

3.10.6 Evaluation

In-depth interviews and case studies are used as a qualitative method by which to evaluate the implementation processes and outcomes.

3.10.7 Methodology

Conceptual and methodological tools are used to focus on critical analysis of the transnational flow of planning ideas and practices. Healey, in 2013, explored three different 'methodologies' to analyse the flow of policy ideas and practices. These three have developed as an alternative to positivist social science and to linear notions of social progress associated with the twentieth-century impetus of "modernisation": actor-network theory (ANT), interpretive policy analysis (IPA) and work on mobility and "circuits of knowledge". This research is more focused on interpretive policy analysis, as it is the main issue in the implementation process. Interpretive policy analysis is used 'to explore the broader institutional context within which new ideas are formed and struggle to flourish, but typically examine[s] changes within a particular context' (Healey, 2013, p. 1519).

3.11 Conclusion

The new human settlement concept is used to analyse the new movement of building new settlements in the twenty-first century. This chapter discussed different examples from Europe and Asia; the aim of this was to draw on the lessons learned in constructing such settlements and to outline the key factors that are used for developing a framework to analyse the implementation process for the new human settlement concept. The framework for the concept of new human settlements was critically reviewed and established in terms of three basic beliefs: ontology, epistemology, and methodology.

The methodology of this research is more focused on interpretive policy analysis, as it is the main issue in the implementation process. Interpretive policy analysts are used ‘to explore the broader institutional context within which new ideas are formed and struggle to flourish, but typically examine changes within a particular context’ (Healey, 2013, p. 1519). The method that has been used is the qualitative method, which uses case study analyses and in-depth interviews to develop an understanding of an issue. After the framework outline, the details of the research method are discussed in the next chapter.

CHAPTER 4
Research methodology

4.1 Introduction

This chapter discusses the research methodology that is used to reach the objectives of this research. It outlines the most important tools and methods used, and the style of social scientific enquiry used. The purpose of this part of the thesis is to identify the overall strategies of inquiry which inform the procedures of this research and to describe in more detail the methods of data collection and analysis that are used in this research.

The research methodology chapter consists of nine sections that provide a comprehensive overview of the research method. The first covers philosophical assumptions and sets out the method design, illustrating the main qualitative approaches that were used. The second section discusses the selected validity and reliability strategies applied in this research. The third section focuses on case studies and describes the types and aims of the case studies used in this research. The fourth section describes how the data was collected for this research, while the fifth section provides details about the interview design and questions. The sixth section outlines how the data was analysed in this research and the seventh outlines the difficulties encountered during this research. Finally, the last section of this chapter is the conclusion, which summarises the key methods applied in this research.

4.2 Research strategy

In reflecting on the research strategy to adopt, attention has been given to the important questions on research design presented by Creswell (2003, p. 6) who asks:

> What knowledge claims are being made by the researcher (including theoretical perspective)? What strategies of inquiry will inform the procedures? What methods of data collection and analysis will be used?

This research substantially uses Creswell's research design strategy framework (Creswell, 2003):

1. Philosophical assumptions: what constitutes knowledge claims?

2. Strategies of enquiry: general procedures, claims of research

3. Method: detailed procedures of data collection, analysis, and writing.

The following sections consider these issues in the context of the present research.

4.1.1 Philosophical assumptions

Creswell (2003, p. 6) summarises four philosophical assumptions: postpositivism, advocacy/participatory, constructivism, and pragmatism (Figure 4.1). This research adopts constructivism as its main philosophical position as offering a perspective well-suited to the exploration of: the understanding of a concept (i.e. in this case, new human settlements); the meaning attributed to a concept by multiple participants/users; the socially and historically contingent construction of a concept; and the “grounded”, or iterative, processes through which theoretical concepts are developed, applied and reinterpreted.

Postpositivism	Constructivism
Determination	Understanding
Reductionism	Multiple participant meanings
Empirical observation and measurement	Social and historical construction
Theory verification	Grounded theory
Advocacy/Participatory	**Pragmatism**
Political	Consequences of actions
Empowerment issue-oriented	Problem-centred
Collaborative	Pluralistic
Change-oriented	Real world practice

Figure 4.1: Philosophical assumptions (adapted from Creswell, 2003, p. 6).

There are three primary purposes commonly attributed to social science research (Creswell, 2003). Research can be exploratory, descriptive, and/or explanatory in its goals. This research can be described as exploratory research, as it seeks to investigate an under-researched aspect of social life. Specifically, it explores how new human settlements are defined and implemented locally and investigates the challenges that are faced by the participants in such processes. The research opted to apply qualitative methods in keeping with the philosophical assumptions discussed above.

In adopting constructivism as its guiding philosophical assumption, this research takes the view that the perception of the new human settlement will

be socially constructed through and by the experiences of those participating in the concept's promulgation and implementation. In gaining access to the thoughts and experiences of those participating in a social process or setting, qualitative methods are typically argued (Creswell, 2003) to be appropriate. In interviewing, for example, open-ended and qualitative approaches are more flexible and allow initial participant responses to be probed – moving beyond closed, or more 'factual' questions and information, to establishing (often in an iterative or grounded manner) why, or how, certain interpretations, processes or conditions came to exist.

The research applied is the qualitative method because the philosophical assumption of the dissertation adopts constructivism in which the perception of the new human settlement is constructed by the experiences of those participating. Cassell and Symon (1994, p. 7) explain qualitative research as:

> A focus on interpretation rather than quantification; an emphasis on subjectivity rather than objectivity; flexibility in the process of conducting research; an orientation towards process rather than outcome; a concern with context—regarding behaviour and situation as inextricably linked in forming experience; and finally, an explicit recognition of the impact of the research process on the research situation.

Qualitative methods are typically more flexible in order to probe initial participant responses: that is, to ask why or how. The qualitative approach is used because the enquirer wishes to make knowledge claims based primarily on constructivist perspectives on the multiple meanings of individual experiences. The flexibility of the qualitative method allows the researcher to explore the challenges of implementing the concept of new human settlements that the participants face in practice.

4.2.2 The philosophical assumption in research

First, there is an ontological assumption, which is a philosophical belief system about the nature of social reality: i.e. what can be known. The perception of the new human settlement is formulated by individual practitioners' experiences. Secondly, the epistemological assumption asks what can be known about new human settlements based upon interactions between the researcher and the practitioners, by providing a new human settlement analytic framework. Thirdly, the "human nature" assumption is that the practitioners have the expertise and related practices in new human settlements and have voluntarily agreed to be interviewed for this research. Finally, according to the methodological assumption, understanding of the new human settlement concept is constructed and interpreted through interviews and findings are compared with available published data, in order to be more integrated and comprehensive. It is also compared to new human settlement concepts that have arisen from different countries (Harding, 1987; Guba and Lincoln, 1998; Hesse-Biber and Leavy, 2004).

4.2.3 Qualitative methods

Qualitative methods are used because understanding new human settlement in practice depends on multiple individual experiences (Creswell, 2003). Furthermore, it looks at reality in terms of participants' beliefs and experiences (Maxwell, 2013). Qualitative methods are used to understand how events, actions and meaning are shaped by the unique circumstances in which they occur (Maxwell, 2013).

Qualitative research methods include open-ended questions, interview data, observation data, document data, audio-visual data and text and image

analysis. This research looked for interviewees who could describe their experiences of new human settlement, as they understand it, by answering open-ended questions from their historical and social perspectives. The object is to understand the context or setting of the participants by gathering information in person. The process of qualitative research is largely inductive, with the enquirer generating meaning from the data collected in the field (Crotty, 1998).

4.2.4 General strategies

This research applied two general strategies of qualitative research. The first general strategy is the phenomenological study, which involves converging several individual meanings of the concept of new human settlements based on individual experiences. The second general strategy utilises case studies, which are used to perform an in-depth analysis of multiple cases, in order to explore the concept of new human settlements within different contexts. The aim is to understand how new human settlements have been defined locally and explore the challenges faced by participants in implementing the new human settlements concept.

4.2.5 Literature review

This research uses literature reviews and analysis to develop a framework. The research framework is then used as a guideline for investigating the implementation of new human settlements. The research framework was built by reinterpreting previous applications of new settlements, such as garden cities and new towns, and outlines some lessons learnt from the past with regard to planning new settlements. Furthermore, it analyses the implementation process in practice through reviewing the literature, which

considers some international examples of new settlements. The review of the literature is intended to give a better understanding of the concept of new human settlements. There is no agreed definition at an international level, but it is possible to use a variety of methods to help develop a theoretical framework. A set of definitions which exist can be summarised and the relevant points discussed. For example, new human settlements can be defined based on their types and sizes. The claimed benefits of developing new human settlements can also be discussed. By considering the types of new human settlements and the implementation methods used in their development, some of the lessons learned from past experiences can be summarised and used to develop greater understanding.

4.3 Validity strategy

Being objective is an essential aspect of competent enquiry, and for this reason researchers must examine methods and conclusions for bias. For example, standards of validity and reliability are important in quantitative research. This research will use six validity strategies, selected from Maxwell's and Creswell's theories, to minimise the validity threat to the thesis.

The first strategy is triangulation, which involves collecting data using different methods, such as documentary reviews and interviews from three different sources, including the government, academics and the private sector (Maxwell, 1996; Creswell, 2003).

Secondly, this research uses the “quasi-statistics” method in the literature review, definitions and framework, as well as the case study. For example,

new human settlement information, such as city size, population, master plan and land use, is collected and analysed to understand their criteria. Quasi-statistics are used to check and support arguments to provide sufficient evidence (Maxwell, 1996), in this case in relation to the characteristics of new human settlements.

Thirdly, this research uses comparative analysis in qualitative studies, particularly to consider the planning process and implementation of new human settlements at the local level, to explore the experiences of interviewees in order to identify the methods and challenges of implementing the new settlements concept (Maxwell, 1996).

Fourthly, the research has tried to discover evidence that identifies both successful practices and failed attempts in the application of the new human settlement concept (Maxwell, 1996). In addition, such discussion of contrary information and experience enhances the credibility of the research (Creswell, 2003).

Fifthly, long term involvement and the researcher's own life experience can help in the development of an understanding of the topic and the acquisition of more evidence to check the validity of research findings. The researcher spent the last six months of the two-year research term in the field. Long-term involvement in the field can produce rich information about the area and provides a relatively deep understanding of the phenomenon under study, and in this way the validity of the research evidence can be checked (Creswell, 2003).

Finally, to have enough rich data in this research, as much data as possible was collected, in order to provide information on the whole picture of new human settlement planning and development. The process of triangulation and experience of long-term involvement described above has helped to generate rich data about the topic.

4.4 Case studies

The case study design for this research was informed by Patton's discussion of purposeful sampling strategies (1990). When selecting multiple case studies, it is recognised that ‘cross-national comparative research must be the most challenging of all types of study’ (Hakim, 2000, p. 200).

A multiple case study is typically used as a tool to explore differences between cases and predict contrasting results based on an initial concept (Yin, 2003). Multiple case studies are used to identify the similarities and differences between the cases in terms of the definition and implementation of the new human settlements concept locally. Yin (2003) identified two ways of using multiple case studies with an expectation that these will: (a) predict similar results (a literal replication); or (b) predict contrasting results but for predictable reasons (a theoretical replication). However, despite its advantages, a multiple case study can also be extremely time consuming and expensive to conduct (Yin, 2003).

In the present study, comparative case studies were conducted to examine the implementation of the concept of new human settlements in different

circumstances and environments. There was a number of purposes for undertaking these cases:

1. To investigate the transmission of ideas about new human settlements;
2. To define the dimensions of the notion of new human settlements;
3. To explore how the “universal” or abstract notion of new human settlements was transformed and used in local contexts, and how this might have a bearing on an understanding of the wider/universal concept of new human settlements.

The case studies therefore provided a way of concretely researching the transfer of ideas between different places in the field of urban planning (Healey, 2011). Such transmission of ideas is often seen as occurring through two methods. The first method is the application of the theory, or idea, in a similar environment. Here, it may be applied without any change, as it was in the country of origin. In such cases it is useful to appreciate the weaknesses and any mistakes made when applying the idea in the country of origin (Healey, 2011).

The second way is when the idea is applied, but in different circumstances and different environments. In a situation like this, there has to be a method of learning from past experiences and studying the dimensions of the idea in different circumstances to determine what could work in a different context and its potential positive effects. Studying examples of the transfer of ideas in this way can help reveal and summarise the most important points that must be taken into account in the study of the flow of planning ideas and practices (Healey, 2011).

4.4.1 The type of case study

Yin (2003) identifies six kinds of case study and classifies these as exploratory, descriptive, or explanatory. In order to compare the implementation of the new settlement concept in different contexts and identify the key challenges of implementing this concept at the local level, this research has selected England and the Kingdom of Saudi Arabia as descriptive case studies (Yin, 2003).

England was selected as a case study because it is recognised as country that plays a key role in practice of new settlements and exporting the concept to other countries. Furthermore, England has a government plan to develop new settlements across the country. The Kingdom of Saudi Arabia was selected as case study for a two reasons: it has past experience in the construction of new settlements from 1980 and since 2005 has had a programme to set up a range of new settlements over a 20-year period. This plan is now in the implementation phase. England and the Kingdom of Saudi Arabia were therefore selected as case studies for the following reasons:

1. Both have plans to implement the new settlements concept.
2. Both have planned to use new settlements to meet local housing demand and to support the local economy.

4.4.2 Sampling case strategies

The case studies in this research aim to gain in-depth information to find a variety of ways and different methods for the application of new human settlements. This research applies five to fifteen strategies, as highlighted by Patton, to identify specific sub-areas/territories within the case studies (i.e.

examples of new settlements in England and Saudi Arabia) and interviewees (Patton, 1990).

First, information-rich cases were selected in this research and multiple-case studies were selected. This choice was preferred because both England and the Kingdom of Saudi Arabia have plans to implement new human settlements in different parts of their respective countries. In addition, all interviewees were chosen because they had direct interests in new human settlements in the Kingdom of Saudi Arabia and England. Accordingly, they were selected from officials of the local government, professional planners, designers, organisations or academia, all of whom have direct interests in new settlements in Saudi Arabia and England.

Secondly, a maximum variation sampling strategy for purposeful sampling sought to identify the principles of the new settlements programme in all 'local' case studies. As the research question is to know how the new settlements concept has been defined and implemented at a local city level, the selection of case study projects had to include information from different cultures, economies and regional policy frameworks. Therefore, a national comparative study design was the best choice for achieving maximum variation.

The case studies of new settlements were selected because they are located in two different countries, with different cultures, economies and policy frameworks. They have evolved in relation to different types of cultural, economic and political backgrounds and the patterns of urban development have little in common. Moreover, comparative case studies are a well-

established method for researching local government and of the planning processes (Hakim, 2000). Therefore, this meets the aim of the research, which is to explore the challenges of implementing the new settlements concept in different local contexts. Thirdly, there is typical case sampling: such case studies are selected as 'typical' cases. All of the areas studied have developed initial new human settlement strategies which have led, to some extent, to their respective regional groups of urban local authorities in this area. Fourthly, criterion sampling was used to analyse all of the cases that meet some selected criteria. The international new human settlement cases have been briefly reviewed in Chapters Two and Three and analysed by using specific information, such as their project stages, the type of city activity, economy, master plan, city size and land use plan.

Finally, a convenience-sampling strategy is about doing what can be done in a limited time, taking into account that, in doctoral research, it is important that research is conducted by the researcher alone. The case study areas were selected not only based on their relevance and performance in new human settlement policy terms, but also for pragmatic and convenience reasons. For example, England was selected because it is the country where the researcher has been based for four years and previously undertook professional planning studies, while the Kingdom of Saudi Arabia was selected because it is the researcher's home country. These facts give the researcher the ability to use a multiple case study in a more effective way by taking advantage of the researcher’s life experience in order to understand the planning context and issues and basic requirements of local communities in both countries.

Now that the specific type of case study that will be used in the research has been discussed and identified, it is important to establish the methods and style of the proposed data collection for this research.

4.4.3 List of case study

In England, the New Communities Group was established in 2009 by the TCPA and DCLG as the Eco-development Group; by 2013 it was rebranded to become the New Communities Group. Its members are local authority planning departments and development trusts planning to develop communities of more than 3,000 residences. About 11 local authorities have joined this New Communities Group. This research selected four new settlements from the New Communities Group as case studies in these research. These four new settlements joined the group at early stage:

1. The West of Cambridge: Cambourne
2. Northwest Bicester
3. Norwich Rackheath
4. North Fareham: Welborne

In Saudi Arabia the first stage of the government plan focused on four new settlements cross the country. This research selected these four new settlements as case studies:

1. The new settlement in the western region of the Kingdom, located next to Madinah city
2. The new settlement in the western region of the Kingdom, located in Rabigh
3. The new settlement in the north of the Kingdom, located in Hail

4. The new settlement in the south-western region of the Kingdom, located near Jazan city.

4.5 Data collection

This research has used four methods to collect data, including observation, analysis of texts and documents, interviews, records and transcriptions (Silverman, 2001). The study has involved collecting relevant documentary data on the concept of new settlements, including newspapers, magazines, articles and official documents, as important background material (Silverman, 2001). However, there were some difficulties in accessing up-to-date information and documents, which relate to the government view about the new settlements implementation process. This is because some data have not yet been published and government officials would not provide this material to the researcher, particularly in the Kingdom of Saudi Arabia.

*4.6 Interview*s

4.6.1 The selection of interviewees

The goal of the interviews was to explore the challenges planners face in the application of the concept of the new human settlement, as well as the methods and tools applied in the planning process of implementing new human settlements. The interviews also sought to gather views from different participants in the process beyond government officials, such as researchers, academics and individuals from the private sector (Gillham, 2000a). As noted above, this research adopts a constructivist and qualitative approach to the study of phenomena. As a result, a core source of data has been lengthy interviews with up to 40 people in total. This approach was

taken as such interviews are particularly useful for understanding the story behind a participant's experiences. The interviewer can pursue in-depth information around implementing new human settlements (McNamara, 1999).

4.6.2 Interview type

There are different types of interview classification, from unstructured to structured (Gillham, 2000b). In this research, in-depth interviews with open-ended questions were used, employing a set of open questions properly formulated to give more flexibility. In addition, there is the possibility of identifying differences in views as to how this claim can access the highest possible degree of depth (Patton, 1990). In-depth interviews are useful for learning about the perspectives of individuals. In-depth interviews are conducted face-to-face and recorded, and it is recommended that they do not exceed 50 minutes per interview. Open-ended questions have three distinct advantages. The first is that responses are meaningful and culturally salient to the participant; secondly, responses are unanticipated by the researcher; and thirdly, they are rich and explanatory in nature.

4.6.3 The design of the interview questions

As noted above, this research has focused on the process of implementing the concept of new settlements in order to understand how things occur in practice (Creswell, 2003). Reflecting this, the questions were divided into three types of qualitative research questions (Maxwell, 1996).

a) Descriptive questions; for example: how can the new settlement concept be implemented locally?

b) Interpretive questions; for example: what is the meaning of the new settlement concept as understood and defined at the level of the city?

c) Theoretical questions; for example: what are the main challenges in the implementation of the new settlement concept?

The specific interview questions used are outlined below.

1) Could you please give me a brief description about the new settlement concept that you are planning to implement? What are the tools, principles and techniques that are used in practice?

2) Today the local authorities have more power for planning than the past; in your view, what are the impacts of this change?

3) What are the roles of the public sector in the development of a new human settlement?

4) How do you involve communities with local government and the public sector in decision-making?

5) What are the key challenges that are faced in planning for new human settlements at the local level?

6) How you can deal with these challenges? Are you satisfied with the results of the planning for a new human settlement locally? Do you have any suggestions about how this process might be improved?

7) From your experience, would you say there are any lessons that can be learned about developing new human settlements? Do you feel that these lessons could be used as guidance for the future development of new human

settlements?

8) There are many other new human settlements that are also implemented inside and outside this country, In your view, why do you think this idea became such a widespread international planning idea? What do you feel are the key mechanisms that make planning concepts “travel”?

4.7 Data analysis

The purpose of this section of the chapter is to outline the main process of analysing the data. Analysis of texts is a way to understand the participants’ opinions about new human settlements and investigate what the participants did to implement the concept (Patton, 2002). Different techniques that can be used to analyse the data were outlined by Yin (2003): pattern matching, linking data to propositions, explanation building, time-series analysis, logic models, and cross-case synthesis. In some cases, some of the points were discussed between the researcher and the participant. This kind of discussion shows how the collection of data can be integrated with the data analysis (Krefting, 1991).

Interview transcription has also been used. The research applied a coding, and categorising tool to integrate the interview transcripts with other documents. This is seen as part of ‘the process of transforming raw data into a standardised form’ (Babbie, 2001, p. 309). Interview coding is used to deduce abstract interpretations from the interview. The next step is to select the most important coding that has the key information. The third step is to test the coding on a small number of interview transcripts before finally applying it to all interview transcripts.

4.8 Difficulties in conducting the research

The main difficulties that were faced during this research can be outlined in five key points. First, there is a lack of sources, information and literature that focus on new human settlement and their applications. Secondly, literature and articles about planning in Saudi Arabia are very scarce, particularly in English. Thirdly, most of the data and information were not posted online, but instead only available in print. The fourth point was a major difficulty, whereby, in conducting interviews in the UK, a significant number of people working in the private sector did not respond to invitations to an interview. Finally, the interviews that took place in the new settlements required travel and it was necessary to move from one city to another to conduct each interview.

4.9 Conclusion

This chapter has discussed the research methodology used to reach the objectives of this research. It has outlined the research strategy and tools and methods used, and the justification for their selection based on the adoption of a given style of a scientific methodology. The selection of cconstructivism as the philosophical stance behind the research has been discussed in light of its appropriateness to the research subject under consideration. This was selected as being the most appropriate from the four philosophical assumptions, identified by Creswell (2003).

This research has been characterised as exploratory research that applies qualitative methods, which are more flexible and better suited to gaining access to the kinds of information that a constructivist investigation of the research subject requires. The qualitative approach is thus used because it

generates information that allows the inquirer to make knowledge claims based primarily on constructivist perspectives and the multiple meanings of individual experiences. The research applied five assumptions: philosophical, ontological, epistemological, human nature, and methodological assumptions. This research applied two general strategies of qualitative research, namely the phenomenological study and the case study. The qualitative research methods included open-ended questions, interview data, observation data, document data, audio-visual data, text and image analysis. This research used four methods to collect observation data and analyse texts, documents, interviews, records and transcriptions (Silverman, 2001). This research uses literature review and analysis to develop a framework that can be used as a guideline for creating new settlements. Research validity strategies, selected from theories promulgated by Maxwell (2013) and Creswell (2003), were chosen in order to minimise the validity threat of the thesis, include triangulation, rich data, quasi-statistics, comparative analysis and the researcher's personal experience.

This research has selected studies from England and the Kingdom of Saudi Arabia as descriptive case studies. England was selected as a case study because it is recognised as country that plays a key role in the practice of new settlements and exports the concept to other countries. Furthermore, England has a government plan to develop new settlements across the country. The Kingdom of Saudi Arabia was selected as a case study for two reasons: it has past experience from 1980 involving the construction of new settlements and has had in place a twenty-year programme to set up a range of new settlements since 2005. England and the Kingdom of Saudi Arabia

were selected as case studies because both have plans to implement new settlements in line with sustainability principles. Interview transcription has been used to facilitate coding. The research has applied a coding, and categorising tool to integrate the interview transcripts with other documents. The key difficulties that were faced in conducting the research were a lack of sources and information, and that interviews that took place in the new settlements required travel and moving from one city to another to conduct each interview.

Following the presentation of the research methodology above, the next chapter presents the findings from the case studies of the application of the new human settlement concept in England.

CHAPTER 5
New human settlements in England

5.1 Introduction

This chapter discusses ways of implementing the concept of new settlements in England as a case study. It summarises the most important policies that have influenced the planning of new settlements in England along with the most important changes in the transfer of powers from central to local government. This chapter also summarises the most important changes and notes the most significant challenges faced by local authorities. In so doing, it also reflects, holistically, on some of the lessons that have been learned. This chapter analyses five examples of new settlements in England which are helpful for understanding the concept of new settlements in England.

This chapter is divided into five sections. After the introduction, the second section looks at the new settlements at a local level. The third section focuses on cases of new settlements in England. The fourth section discusses the key challenges of implementing new settlements in England. The last section concludes and summarises the key points that have been discussed, analysed, and theorised within the chapter.

5.2 New settlements at the local level

England is one of the four countries of the United Kingdom. It is a developed country located in Western Europe, with a total land area of 243,610 square kilometres and a total population of 63,742,977. The UK is a leading trading power and financial centre, and is the third largest

economy in Europe. GDP is GB£1.56 trillion (Central Intelligence Agency, 2014). The United Kingdom faces many challenges. This is especially true because of its large population (Central Intelligence Agency, 2014). The country has a high urbanisation rate of 79.6% – a level recorded in 2011. With a large population, there is a high demand for housing of approximately 250,000 units per year. The large cities in term of population are London – the capital – with nine million people, and Birmingham and Manchester with around two million people each.

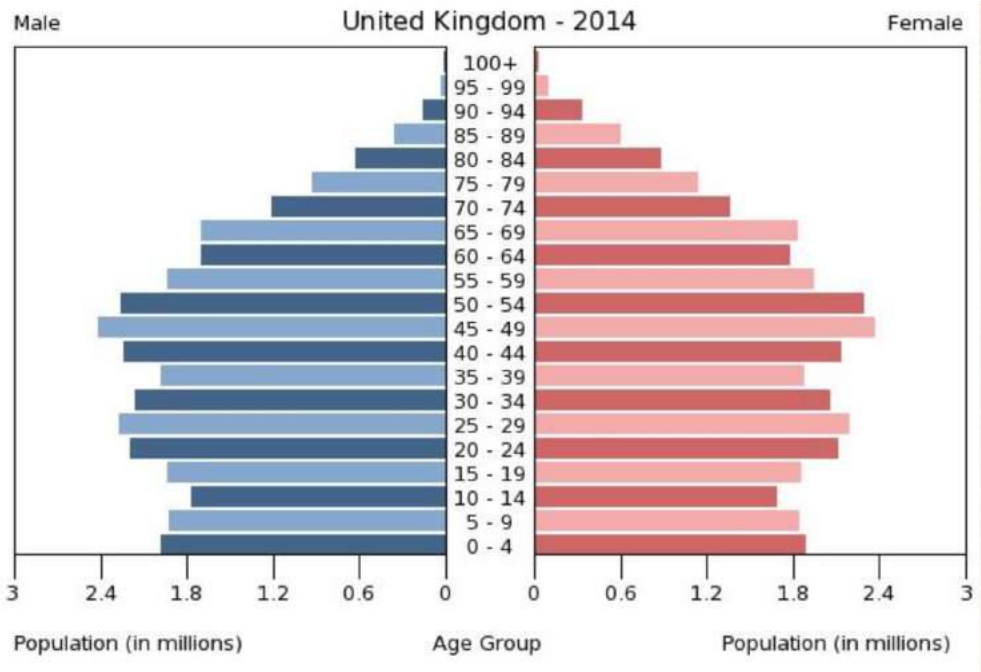

Figure 5.1 The population of the UK (Central Intelligence Agency, 2014a)

In 2007, the Department of Communities and Local Government (DCLG) proposed that the eco-towns concept should be developed in the UK. The main requirement for being an eco-town is that a town must be a new settlement and comprised of between 5,000 and 20,000 homes. Eco-towns must have a distinct identity linked to their surrounding towns and cities and are required to be a zero-carbon development. Such towns need to include a

range of facilities, including business and leisure spaces, a secondary school and local shopping areas, and between 30% and 50% of affordable housing; thereby providing a mixture of both housing and community types. A total of 57 proposed sites have been submitted by local authorities, but only 15 sites in England have been approved as of April 2008 (Department for Communities and Local Government, 2007, p. 13).

Figure 5.2 England Location (Ezilon, 2014).

The Eco-Towns Challenge Panel has twelve members who were selected by government to deal with the eco-town challenges. The Eco-Towns Challenge Panel's role is to work with local authorities to improve their vision for the eco-towns that are in the short-listed locations and to provide recommendations for each eco-town. The Eco-Towns Challenge Panel published notes and recommendations in 2008 (Department for Communities and Local Government, 2008). In July 2009, the Eco-Towns Challenge Panel's supplement to planning policy statement was published, which set out standards for new developments in order to meet the objectives of the Planning Policy Statement on Climate Change 2008 (Department for Communities and Local Government, 2009).

The National Planning Policy Framework (NPPF), published in March 2012, set out new planning policies and replaced most previous planning guidance. The NPPF promotes sustainable development, and in so doing identifies three dimensions: an economic role, a social role, and an environmental role (Department for Communities and Local Government, 2012). The Prime Minister and the Minister of State for Housing have supported new developments based on garden city principles (Jenny Barker, interview, 2013). Paragraph 52 of the National Planning Policy Framework recognises the role of garden city development. This was the first time that garden cities have been specifically mentioned in planning policy for over four decades (Katy Lock, , interview, 2013).

Figure 5.3 Eco-town shortlist of potential locations (Department for Communities and Local Government, 2008).

The New Town Act 2015 has the objective of identifying the issues that face government in terms of the delivery of new communities. New settlements are part of the solution for dealing with the challenges of housing and achieving sustainable growth. The law provides the most basic aspects of high quality settlements and deals with issues of compatibility needs in the long term. The law includes legislation that needs to be updated in order to conform to the current situation. Changes include sustainable development, climate change and social exclusion, as well as the promotion

of community participation and ensuring private sector partnership with local government. It also includes ensuring the delivery of assets management to the local authorities. The key ingredients for the success of such large-scale, new place-making are:

- Clear political and policy leadership.
- Powerful public sector delivery agencies.
- An effective mechanism to capture land values.
- The ability to attract employment in chosen locations.
- Access to public finance, especially in the early stage of development.
- The ability to attract and involve private developers on a large scale (Town and Country Planning Association, 2014).

The success of the development corporations was directly related to their ability to deploy the following core powers:

- Possibility of compulsory purchase of land.
- Take advantage of the additional value of the land because of the change of land use.
- Borrowing money.
- The preparation of a master plan.
- Granting or refusal of planning permission.
- Housing administration delivery facilities or partnering with other agencies (Town and Country Planning Association, 2014).

There is no strategic planning in England, as the Government got rid of regional planning. Furthermore, there is no national strategic plan in terms of planning for the new settlements in order to set them at the correct scale, which might cost more than a local authority boundary (Katy Lock, interview, 2013).

The advantages of implementing new settlements in England are three-fold. First, the new settlements will be a solution for the housing crisis

strategically and in the long term. Secondly, there is a need to plan on a scale that enables the embedding of sustainable principles of development. Thirdly, the past experience of new settlements in the UK, in the guise of garden cities and new towns, has shown that, if properly managed, and underwritten by land values, new settlements can be good for business and good for the economy, so there are financial and social benefits (Katy Lock, interview, 2013).

The Localism Act (2011) sets out the framework for local authorities in the preparation of local planning. It also includes a guide for cooperation between local governments and other bodies in order to deal with sustainable development and land use matters (Department for Communities and Local Government, 2011). Local authorities and communities have to decide whether they want a large-scale development near them through neighbourhood planning or through their local plans, and this is very challenging (Katy Lock, interview, 2013).

Barker , Home and Burgess in 2013 discussed the main differences between past and present practices in new town development corporations. In the past, new town development corporations and their ability to assemble land facilitated new towns and made a significant difference. Today, the land is under multiple ownership and local authorities effectively rely on the private sector to do the work of assembling the land ‘If they did not, this could mean that there would be substantial difficulties in delivering the site’ (Barker, interview, 2013). In terms of amassing land and in terms of compulsory purchases .the effect of the change in policy Burgess said that:

> ‘the power is being taken away in some ways, this government is trying to take away the power of the local authorities and give more power back to the local communities’ (Burgess, interview, 2013).

Central government pressed local governments to work on the preparation of a clear plan for the city's growth and accommodate the housing need with in local authority boundary. The presumption of sustainable development requires the authorities to make decision in term of accepted of refused the planning application based on an update plan. The local authority required meeting an objectively assessed need for housing to quote Home:

> The local authority has to accept this as a loss of the power of local authorities, because in the past, national policy had never gone so far. It guides how local plans should be produced, but it has not told authorities they have to accept developments that are not exactly in accordance with their local plan (Peter Home, interview by author, 2013).

After most important policies at the national level has been reviewed, is important to move to analyze and discuss some of the selected example of new human settlements. The next part it is analyse five new settlement selected from England (Cambourne, Welborne, Northwest Bicester, Rackheath and Lightmoor)

5.3 Cases of new settlements in England

5.3.1 West of Cambridge: Cambourne

The approval for the structure plan was received in March 1989. The application for Cambourne was submitted in September 1992 to South Cambridgeshire District Council. The master plan was developed by Terry Farrell with Randall Thorp as landscape consultants and was approved in November 1996. Work on the site started in June 1998. One year later,

people started to move into Cambourne. In 2007, planning permission for 950 dwellings was received. In 2013, Cambourne proposed an extension to the west of the present settlement that would contain a further 1200 dwellings (Cambourne Sustainable Green Infrastructure, 2010, p. 4).

Cambourne is located to the west of Cambridge, approximately ten miles away from the A428. It was planned to be a new settlement that would be divided into three separate villages. Each village would be connected to the others by a series of greenways and a network of green open spaces. The main reason for this green separation was to make the villages appear separate. The green spaces provide a very important drainage function, and an ecological one as well. The ecology of Cambourne is excellent. The Cambourne vision is :

> ‘to create a sustainable, new, vibrant community that was inclusive and diverse with its own identity that was achieved by using best practice, maximising the use of the green infrastructure and by creating a sense of community’ (Cambourne, 1995).

The ethos developed within the Cambourne master plan sought to:

- Conserve the village character and develop a settlement that respects the traditional English settlement.
- Reflect social inclusion.
- Conserve the rural character of the landscape.
- Conserve existing features on sites of landscape value.
- Provide an attractive rural landscape.
- Create a landscape framework that will enable the new settlement to be integrated harmoniously into the surrounding countryside (Cambourne, 1995).

Figure 5.4 Cambourne land use (Cambourne, 1995).

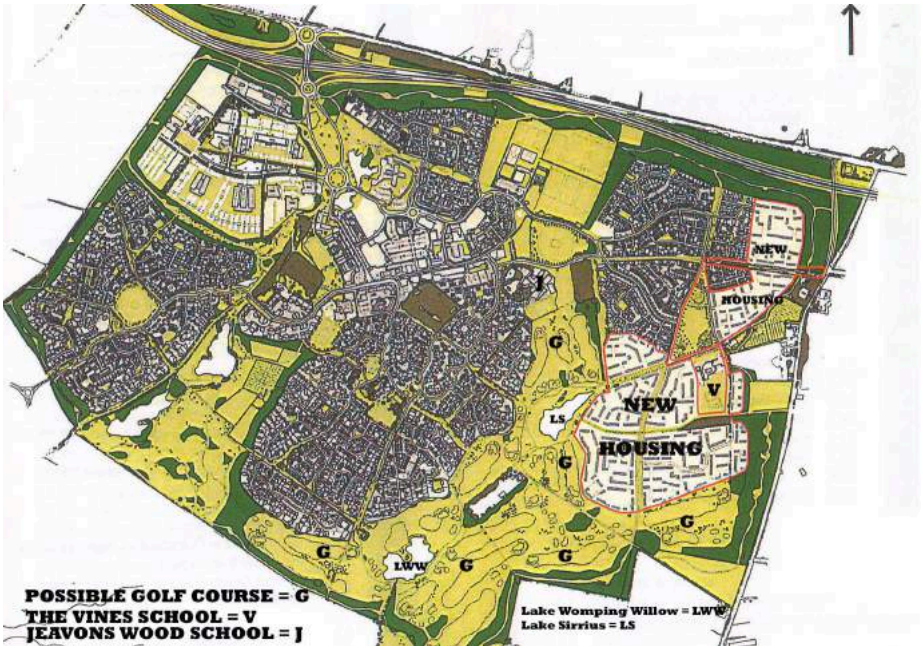

Figure 5.5 Original master plan of Camborne (Cambourne, 1995).

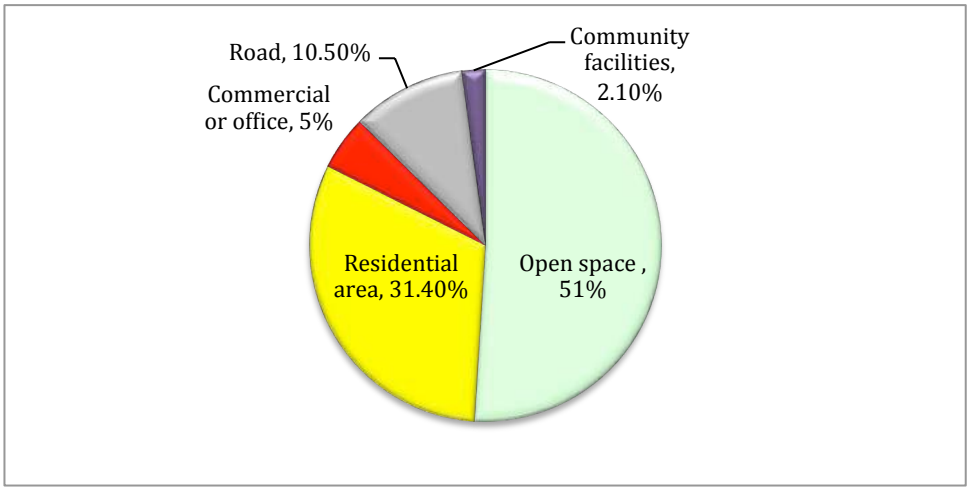

Figure 5.6 Land use for the new settlement of Camborne

The main issues that Cambourne faces are outlined and discussed below.

Low density:

Cambourne was planned to have 25.1 dwellings per hectare, although Policy Guidance Note 3 required Cambourne to increase its density from 25 to 30 dwellings per hectare in order to meet minimum requirements (PPG3, 2000). Cambourne's master plan was approved at 24–26 dwellings per hectare. Today, central government requires planners to increase densities. Originally, Cambourne was planned to accommodate 3,300 homes. It will now have a total of 4,250 homes. This increase in the population could provide the opportunity for Cambourne to be more attractive to retailers.

No secondary school :

The original master plan did not include a secondary school. However, because Cambourne has cheaper house prices than Cambridge, Cambourne is very attractive to young families. This led to there being a high birth rate and many young children. Many of those children are now reaching secondary school age. All of the children from Cambourne could go to

schools in other villages but this would require them to catch buses. It was realised that this was a problem and that a secondary school needed to be built. It needs to be surrounded by fields and is to be situated to the west because it was not in the original master plan (Edward Durrant, interview, 2013).

Residents travel by car rather than public transport:

The planning permission for the 950 additional homes was obtained in 2011. Cambourne does not have a good bus link to all of the neighbouring villages. Buses do not go into Upper Cambourne, because they cannot get out of Upper Cambourne. If they did go into Upper Cambourne, it would take approximately 15 minutes to leave the village, which is not sensible In snowy weather it would take even longer

> The people of Bourn were so adamant there should be no vehicular link, even for buses, that our elected members chose to remove this from the planning permission. This is not wise if you want to encourage public transport, but obviously members are voted for by the public, and the public chose, in this case, that they did not want access (Edward Durrant, interview, 2013).

Cambourne has faced difficulty in attracting companies:

Cambourne has faced difficulty in attracting companies and there are a lot of empty offices. This is a problem because it means that most people have to drive out of the settlement to work. Nevertheless, approximately ten per cent of people both work and live in Cambourne, which is quite high (Edward Durrant, interview, 2013).

Need for extension:

Developers have applied for permission to develop 1,744 houses, but the council refused this plan for a number of reasons, including the fact that the

new developments would affect the green separation between Great and Lower Cambourne. However, the council believes it is acceptable to add 700 houses by increasing densities, and is progressing this through the Local Development Plan process (Edward Durrant, interview, 2013).

Social isolation:

The Church has a very real role to play in social isolation. Cambourne has a growing Muslim population and it is openly Christian. As such, the Catholics and Muslims feel excluded. However, today, it would perhaps be better to have a more ecumenical, multi-faith centre, rather than one that is predominantly for one faith . This multi-faith centre lessons could, perhaps, also be applied to other countries. (Edward Durrant, interview, 2013).

Facilities:

A Section 106 Legal Agreement that secured money for the facilities and delivery of the facilities was drawn up in 1994. One of the requirements of the Section 106 Legal Agreement was to have a sports centre, and now there is a sports centre. However, it took a long time for this to be delivered, and the Section 106 Legal Agreement was prescriptive about what the centre should include; for instance, squash courts. Today, however, squash is not as popular as it was in the 1980s. It was also quite a popular sport of the middle classes. However, because of the area's lower house prices, squash is not as relevant for Cambourne's new residents. Therefore, the Section 106 Legal Agreement had to be amended so that it no longer stated that the sports centre should have squash courts, because to quote Durrant:

> 'we knew that if we built it with squash courts, the squash courts would not be used. In terms of the sustainability target, the

> parish council has put solar panels on all of the public buildings around the village in order to meet this target' (Edward Durrant, interview, 2013).

5.3.2 North Fareham: Welborne

Welborne is located in the north of Fareham borough, separated from it by a motorway. It will be a compact garden city, with average housing densities of between 35 and 38 dwellings per hectare. It was designed to hold 10,000 houses plus employment areas and, since 2006, the numbers have been reduced. The goal is set at 6,000–6,500 homes, plus employment areas of approximately 100,000 square metres Welborne Vision:

> 'A distinct new community set apart but connected to Fareham, whose spirit, character and form are inspired by its landscape setting' (Fareham Borough Council – The Welborne Plan, 2014).

Local policy context:

Situated north of the Fareham Strategic Development Area, the new development is designed to benefit from a set of high-level development principles for the new community. In Core Strategy Policy CS13, 6,500 dwellings were deemed to be an appropriate number of dwellings for the new settlement. The Sustainable Community strategy entitled '*Your Fareham, Your Future*' sets out a vision for 2020 that includes the development of a new community to the north of Fareham. The priorities established in this strategy included supported affordable housing and local businesses. This vision and the priorities identified in the Sustainable Community Strategy have informed the proposals for Welborne and have

been taken into account in the production of the Welborne Plan (Fareham Borough Council, 2014).

The regional strategy:

The South East plan was formally cancelled on 25 March 2013, following the enactment of the Localism Act 2011. The South East Plan no longer forms a part of the Fareham development plan, nor is it a material consideration for the determination of planning applications (Fareham Borough Council, 2014).

South Hampshire strategy (2012) :

Fareham is a member of the Partnership for Urban South Hampshire (PUSH). When the South East Plan was being prepared in 2005 and 2006, the local authorities joined together in a partnership called PUSH. PUSH is essentially an informal agreement between local authorities that they will use this partnership to divide up their development needs (Fareham Borough Council, 2014). In meeting these development needs across South Hampshire, it was decided that there should be two very large strategic developments that would be promoted through the South East Plan. One of these was north of Fareham, and the other one was in Hedge End, in Eastleigh borough (Home, interview, 2013). Over the years, the Hedge End development has been discontinued and Eastleigh is undertaking other actions to meets its housing needs. The north Fareham development is essentially the only large, strategic development that has kept going in South Hampshire (Home, interview, 2013).

The South East Plan was cancelled by the government because it does not

favour regional plans. However, Fareham Borough Council, as well as the wider partnership, PUSH, decided to keep going with this development.

> Fareham wants to develop the proposal because it is the most sustainable way of delivering housing in this area whilst also protecting the other green areas of the borough. It will also help to secure the right level of infrastructure, whilst making the development sustainable. This will also help to ensure that the overall need for housing is met; therefore, this development is being planned (Peter Home, interview, 2013).

Fareham applied to the government to become an eco-town and was accepted onto that programme. However, once the Conservative–Liberal Democrat coalition came into power, the eco-towns programme was discontinued. The local council, which is a Conservative council, argued that it was not right to continue with something that the national government did not believe in (Home, interview, 2013).

The revolution of politics is behind this shift in central government thinking. The Labour government in 2010 was supportive of eco-towns. Eco-towns were very specific and required a planning policy statement. Welborne no longer follows the criteria for eco-towns. The main reason for this is changing politics and viability; becoming an eco-town is very expensive. There is a lot of new infrastructure that is needed in order to make this development happen. Principally, it is the changes to this junction 10 that could cost up to £45 million, and the developer would have to pay for this (Home, interview, 2013).

Public consultation

Two stages of public consultation have been completed. The first stage was an options consultation, which included ideas on the site and demonstrated

how the site could be developed (Fareham Borough Council, 2014). Three options were discussed and evaluated, and this was completed in July 2012. A public survey was conducted on options relating to housing, open space, community facilities and sustainable energy generation in February 2012. Visits to various local primary schools and engagement with the Fareham Youth Council occurred during the spring of 2012. A series of five public exhibitions and a public survey on the master planning and other development options was conducted in July 2012.

The second stage focused on the Local Development Plan. In April, May and June 2013, a detailed draft plan (The Welborne Plan, 2014), was drafted in order to define the changes that were needed and this was submitted to the Secretary of State for examination in May 2014. A six-week period of consultation on the draft Welborne plan was conducted in May and June 2013, including a further series of five public exhibitions. The aim was to hold examination hearings in September or October 2014 and then to adopt the plan in the beginning of 2015 (Peter Home, interview, 2013).

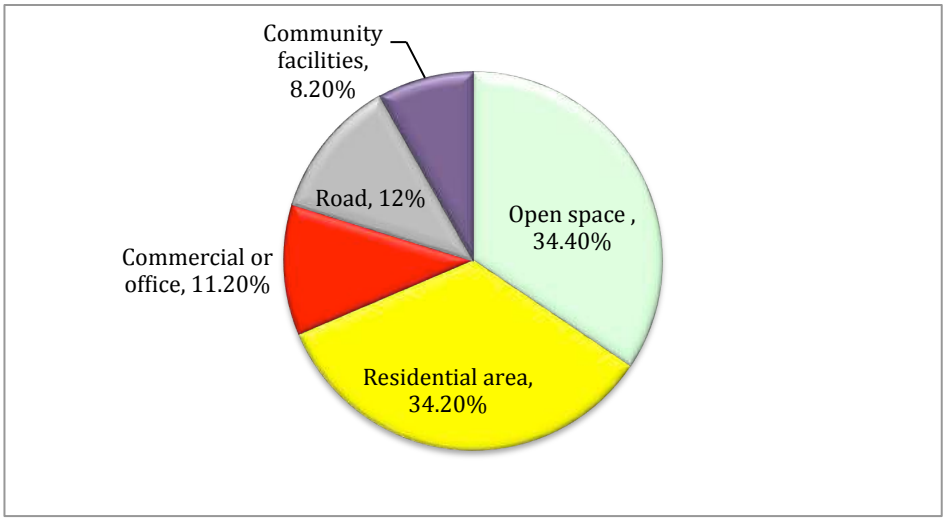

Figure 5.7 Land use for the new settlement of Welborne

Figure 5.8 Concept master plan (LDA Design Consulting LLP, 2014, p. 4).

It is assumed that one primary school will be required for every 1,500-2,000 new dwellings and that a secondary school will be required for every 5,000-6,000 new homes; the master plan shows that all three schools will be located within suitable walking distance of pupils' homes (Fareham Borough Council, 2014).

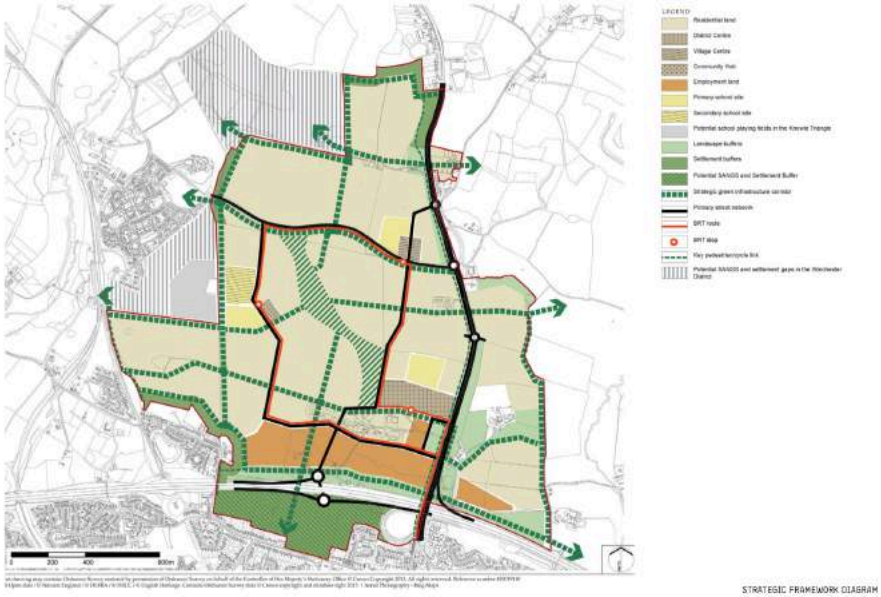

Figure 5.9 Strategic framework decigram (Fareham Borough Council, 2014, p. 163)

Market challenge

There are problems in the housing market in South Hampshire, as there is more capacity than there is demand. A balanced approach would be to promote small businesses, entrepreneurs and start-up businesses, thereby creating obtain a ‘business incubation centre’ on the site, which would help individuals and small companies to get started. The aim is to have different sizes of office and workshop accommodation so that businesses can move and grow. There will also be very large employment sites in the area, and it may be difficult for the small businesses to compete with these operations.

The local community does not really support the new settlement plan; to quote Peter Home:

> The only people, obviously, who didn’t say that, are the people who live in this part of North Fareham, the people who live in Funtley, this village here, they didn’t want it. Interestingly it's very close to this settlement here, but that's not in Fareham Borough, so they never had a say, and that’s very... and they find that frustrating, because they're in Winchester district, but they’ve had no power over whether to say this happens or not. Fareham Borough Council consults with local community. But they are never had sort of like a vote or an ability to say what they really think and have the council listen to them because they're not in Fareham Borough (Home, interview, 2013).

5.3.3 Northwest Bicester

it is a new settlement located next to north Bicester planned to accommodated 6000 .it is now also as Elmsbrook (A2 dominion, 2014).There was a proposal for a 15,000 home settlement at Weston Otmoor, and there was a lot of local opposition to it. The District Council and the County Council came out against that proposal and were not in favour of it. Arup Consultancy looked at the impact of the proposal. One of its conclusions was that if the location was developed, it would be likely to

draw investments away from the existing settlements in the area, places like Kidlington and Bicester. This conclusion led to the Local Authority stepping up its opposition to the proposals at Weston Otmoor. Northwest Bicester is different from the original concept, which was a freestanding new town. It has now been decided to grow the existing town, as it is a new settlement set next to Bicester. Barker (2013) states

> it is very hard to find places for new settlements. There is difficulty because, inevitably, there is likely to be local opposition as the local authority is taking a difficult decision to put a lot of growth in one area, but doing so knowing that the alternative was that such growth might be imposed upon it (Jenny Barker, interview, 2013).

it has target to provide 1 job per house .It has plan for zero carbon energy standard for all buildings. Has plan to reduce car use (to below 50%) to other more sustainable travel. The master plan included 4 provide primary schools located within 800m of all homes. Offer a mix of affordable housing is included.Bicester eco-town is an example that shows how new settlements can be integrated with existing cities, as presented in the Bicester eco-town vision '*Creating Space for a New Way of Life*' (A2 dominion, 2014).

> In order to try and encourage existing residents to think about how they travel, as there are lots of short journeys by car in this area, the local authority is trying to work with local people and make them more active and involved and, in fact, out of this has come a local community action group that runs programmes in the style of Freecycle in order to try and reduce waste, and there is now a newly opened waste reuse centre and a sustainable living centre (Jenny Barker, interview, 2013).

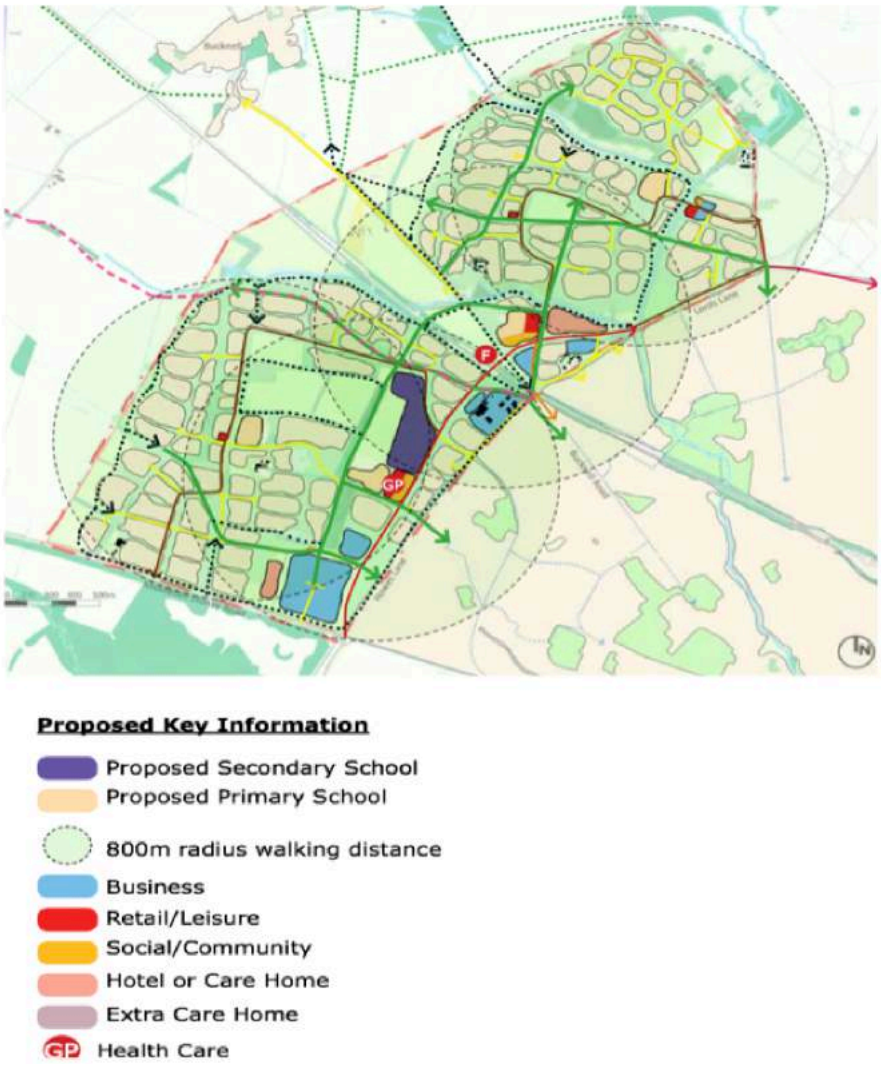

Figure 5.10 Key destinations (A2 dominion, 2014, p. 103).

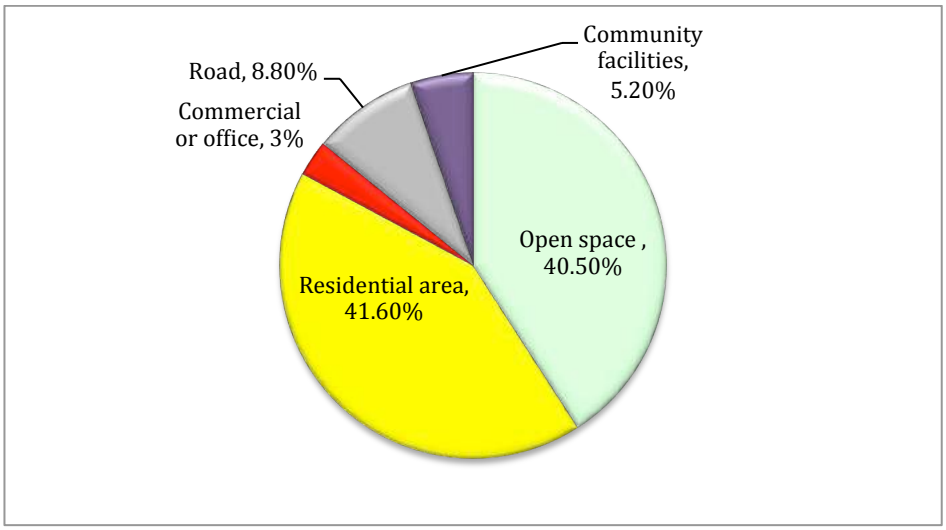

Figure 5.11 Land use for Northwest Bicester

5.3.4 Norwich Rackheath

Rackheath is located three mails from Norwich city centre, on the edge of the Norwich built-up area, between Wroxham and Salhouse Roads. It will be a new settlement with 4,125 homes. The vision for the eco-community is that it should be a safe and attractive place where people want to lay down roots in the knowledge that they will benefit from easy access to employment, high standards of education and community support and a diverse and healthy environment (Barratt-Rackheath, 2009).

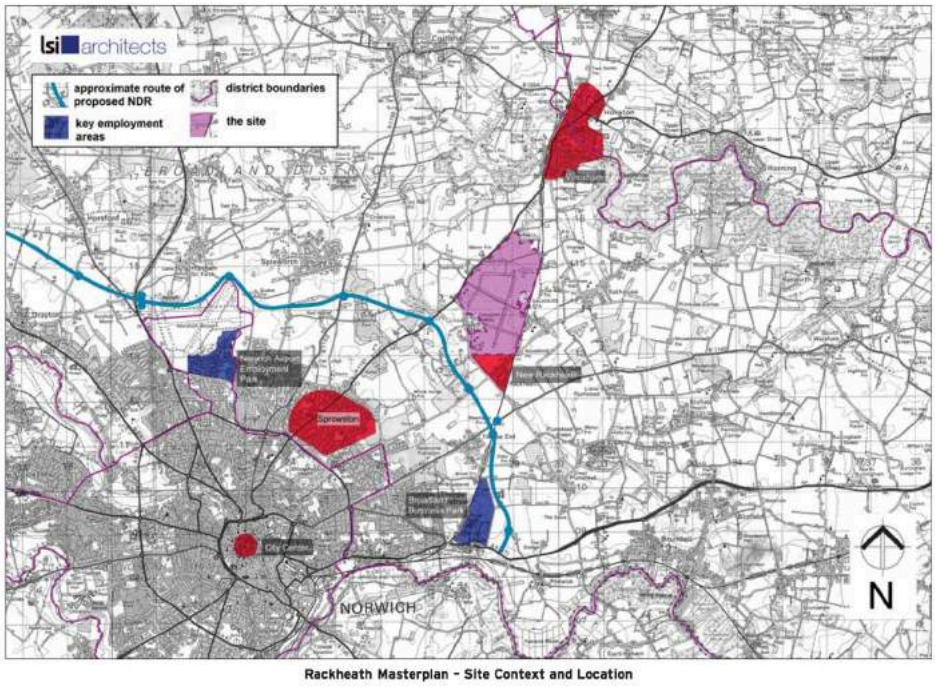

Figure 5.12 Rackheath location (Barratt-Rackheath Eco Community Concept Statement, 2009, p. 8).

New Rackheath is designed to meet central government guidelines and criteria to be classed as a property eco-town. New Rackheath plans to be integrated with the existing settlement, and consists of three main elements (Barratt-Rackheath, 2009). The residential areas are located on either side of Salhouse Road – this is an area that possesses many houses that have been

built since 1950. In addition, there is space for small retail and community uses located on the Salhouse Road and Station Road areas of Salhouse. Finally, Rackheath Industrial Estate would be extended to the north, to provide jobs (Ben Burgess, interview, 2013).

Rackheath is working on existing properties. There are approximately 870 existing properties in Rackheath, and we have been looking at a series of retrofitting schemes for them. In terms of energy, Rackheath plans to use buildings with solar panels and green and brown roofs, and there is a proposal for an energy centre using communal heat and power (Barratt-Rackheath Eco Community Concept Statement, 2009).

An improved train station is proposed in order to change the behaviour of people, in effect getting people out of their cars and more inclined to live in a sustainable ecological way, as well as via improved cycle ways and bus tracker transit routes towards the site. In order to facilitate this, there is a hope that the development will use a big area of green space consisting of reclaimed heath land to the north, which will also provide a buffer zone between the development and the Broads.

> Rackheath is located in area of severe water stress, so it was important that the plan would assess water neutrality. The water needs to be recyclable. Rackheath cannot provide a solution at its scale, considering the work needed in the wider growth area, because it needs to start setting up water efficiency practices across the wider area as well as looking at existing developments. There is a plan to retrofit these homes in order to make them more energy and water efficient (Ben Burgess, interview, 2013).

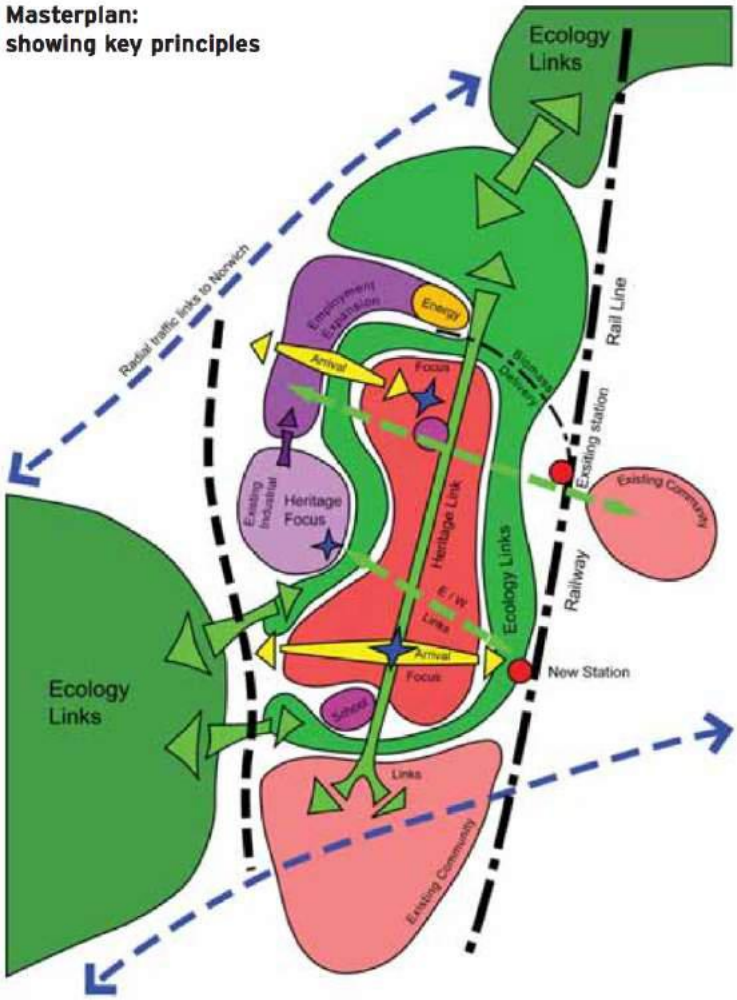

Figure 5.13 Rackheath key principles (Barratt-Rackheath, 2009, p. 32).

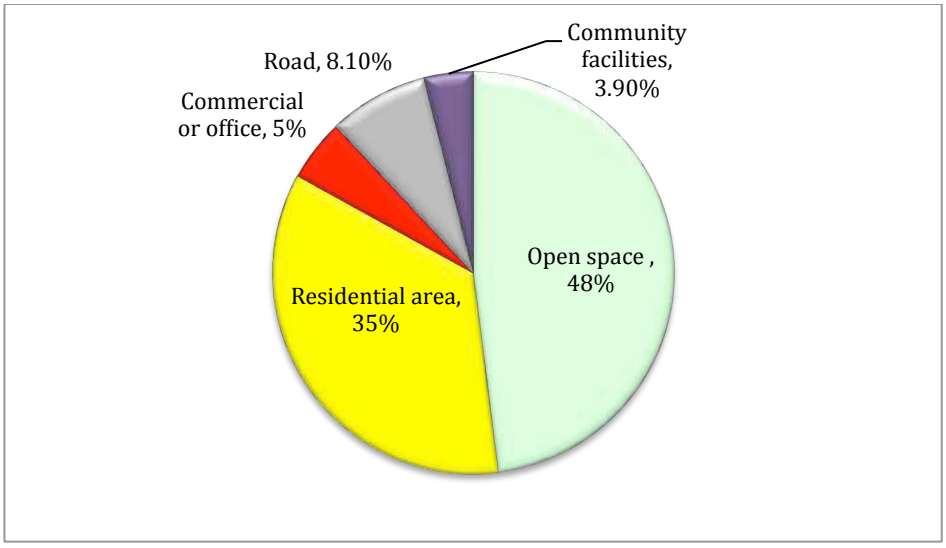

Figure 5.14 Land use for Norwich Rackheath

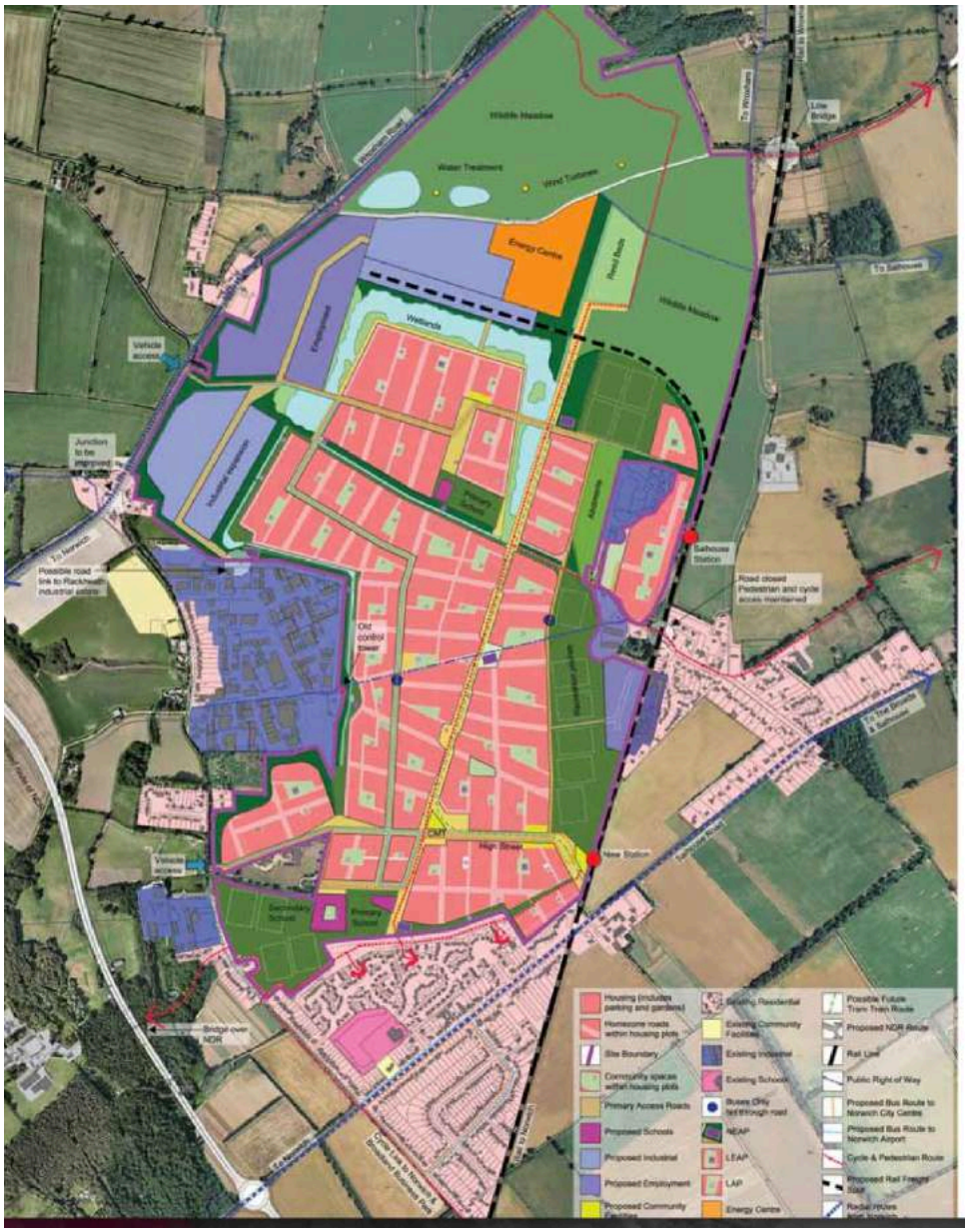

Figure 5.15 Rackheath master plan (Barratt-Rackheath, 2009, p. 31).

It is important to set up a community trust as a tool for changing people's views on how they live and behave; it is needed to get the existing community signed up to the development. Burgess (2013) said the challenge is that an

> officer who is working on that, working with the community trust, so he is seconded there, doesn't work here anymore, but the community trust is still going. But I am always going to sort of temper all of that with the fact that things have slowed a bit, for now. So we're not going to pass as much work as we were (Ben Burgess, interview, 2013).

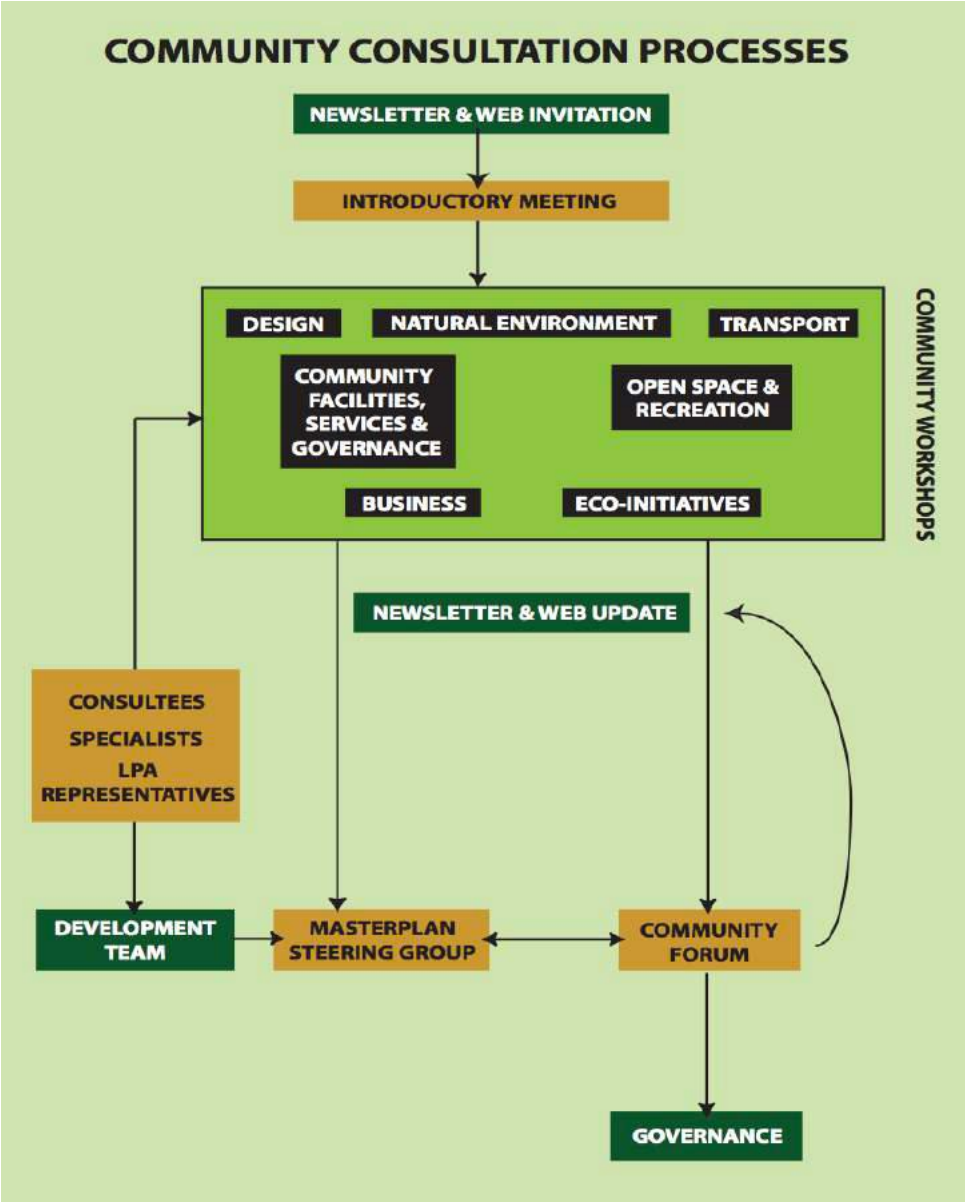

Figure 5.16 Rackheath community consultation process (Barratt-Rackheath, 2009, p. 30).

5.3.5 Lightmoor

Lightmoor Village is a new settlement that was planned, in 2001, to accommodate approximately 1,000 dwellings upon a 72-hectare site. It was envisaged that the project would be completed by 2020. It was developed by English Partnerships and the Bournville Village Trust. It has a village centre that includes a primary school, retail units, and Bournville Village Trust's offices (Bournville Village Trust, 2014).

Figure 5.17 Lightmoor Village (Bournville Village Trust, 2014)

The vision for Lightmoor Village was to create a sustainable community with a variety of housing types for a range of tenures that

> mix land and offer local services, facilities, and job opportunities. Sets new standards of high quality, sustainability principle to create a highly desirable living environment, which has a genuine sense of community, where people have all that they need to live, work and play. Provide a ground-breaking scheme that informs and inspires others to create urban communities of similar quality. This vision was underpinned by the aim to achieve the highest design quality in an environmentally responsible and sensitive manner, whilst respecting the existing landscape (Bournville Village Trust, 2014).

The master plan has vision and provides a development framework that has evolved over a number of years. Central to the plan was the idea that the development would comprise a high quality village environment that drew on the distinctive characteristics of Shropshire. It was also hoped to create a village with a genuine sense of place through thoughtful design with streets, squares and open spaces. Building would be on about a third of the site, with two thirds left for open space. Open space, sports facilities, parks, and playgrounds, are all very typical of Bourneville. One quarter of the houses will be social rented, and are sprinkled throughout the development. There is a sustainable urban drainage system, which allows rainwater to percolate into the ground, rather than rushing straight off into the River Severn. The community centre takes up half of a building and the other half is occupied

by the primary school. It follows the principles of old Bourneville in Birmingham expressed in a twenty-first century way. The school and community centre are located in the centre (Bournville Village Trust, 2014).

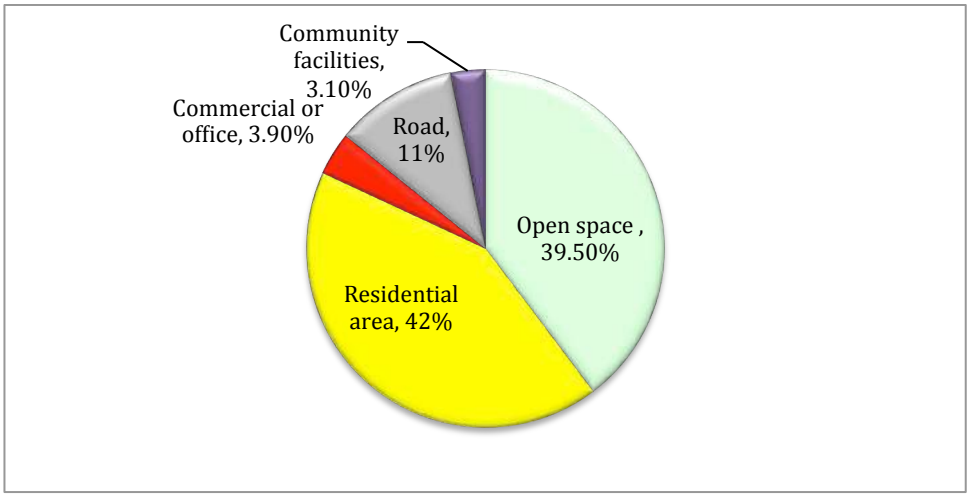

Figure 5.18 Land use for Lightmoor

5.3.6 Comparison between new settlements in England

Having outlined the individual settlements, this section of the chapter compares them. In so doing it uses two distinctive sets of indicators. The first set of indicators focuses on size and density. The second compares land use. The first section focuses on the area and the size and density, which included four key indicators for comparison between new settlements in England. The second compares the land use, and includes five indicators for comparison.

- Open space
- Residential area
- Employment area which included commercial or offices
- Community facilities
- Roads

First indicator: Housing units

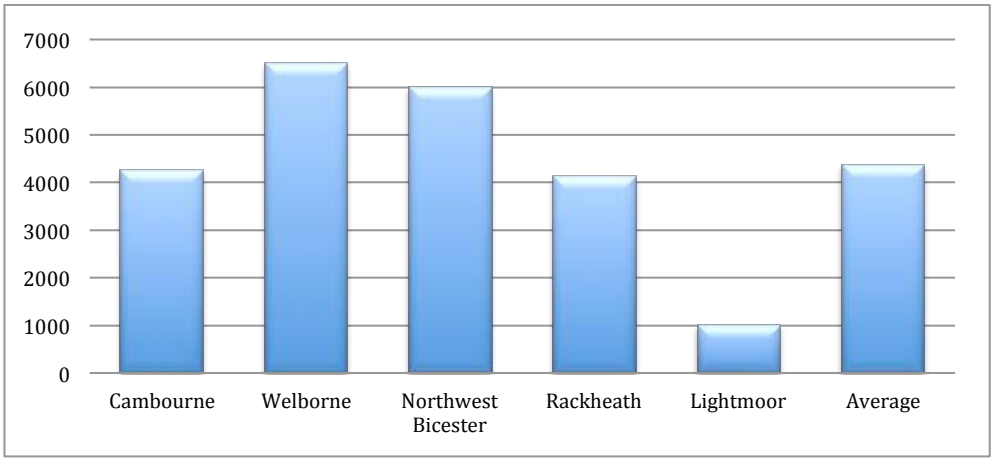

Figure 5.19 Housing units as a key indicator for comparison between new settlements in England.

Welborne and Northwest Bicester have been planned to provide more than 6,000 housing units, which is more than the average for new settlements.thre reson for that they effected by the Eco town policy. Cambourne and Rackheath have been planned to accommodate more than 4,000 housing units; close to the new settlements average . Lightmoor has been planned to accommodate about 1,000 housing units, below the average because it has been planed before the eco town policy established.

Second indicator: Land size

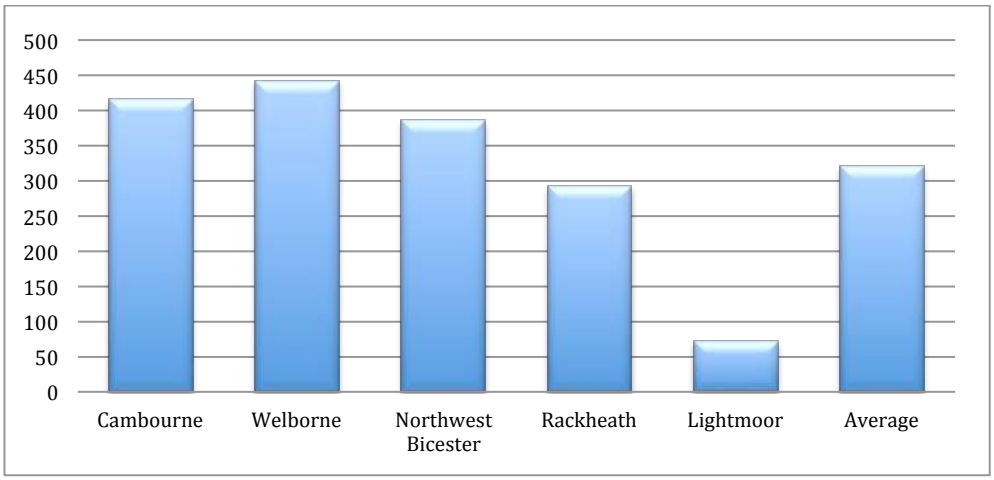

Figure 5.20 Land size as a key for comparison indicator between new settlements in England.

Cambourne, Welborne and Northwest Bicester have been planned on large

sites of more than 350 hectares. This is above the new settlements average in England. Rackheath and Lightmoor have been planned on sites which, in size, are below the average.

Third indicator: Density

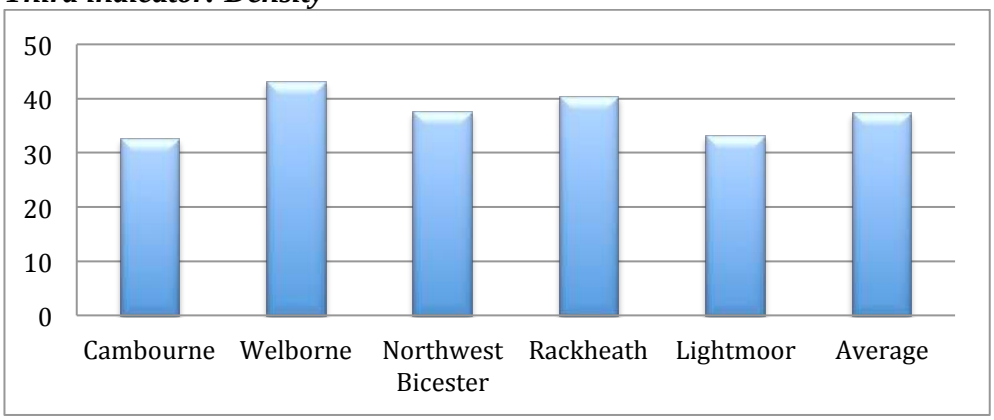

Figure 5.21 Density as a key comparison indicator between new settlements in England.

Cambourne and Lightmoor were planned with 33 dwellings per hectare, which is below the new settlements average in England. In contrast, Welborne, Rackheath and Northwest Bicester were planned with more than 40 dwellings per hectare, which is above the new settlement average in England.

Fourth indicator: Distance

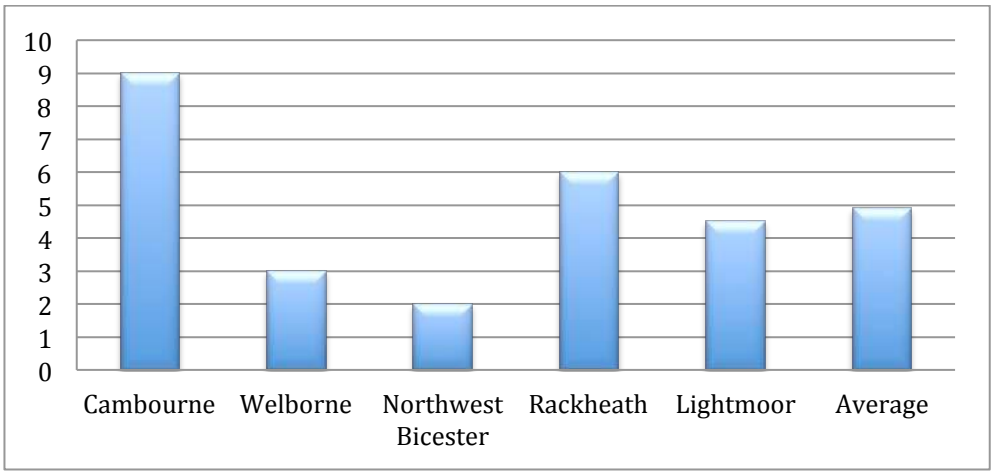

Figure 5.22 Distance from nearest city as a key comparison indicator between new settlements in England.

Cambourne is located nine miles from its nearest city and Rackheath is located six miles from its nearest city; these are both more than the new settlement average in England. Welborne, Northwest Bicester and Lightmoor are located less than four miles from their respective nearest cities, below the new settlement average.

Land use

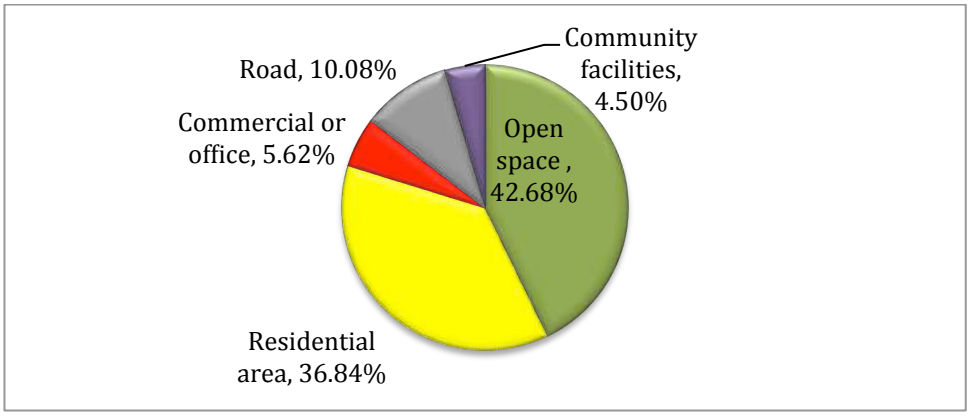

Figure 5.23 The average of land used as a key comparison indicator between new settlements in England.

First indicator: Open space

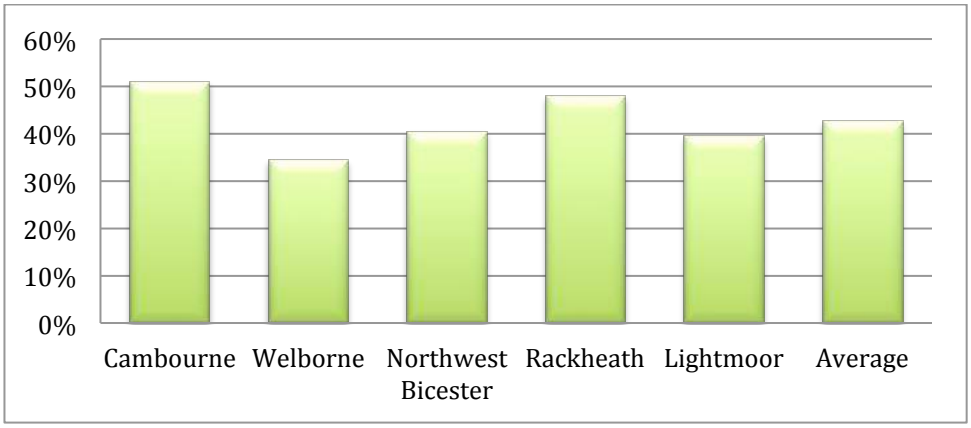

Figure 5.24 Open space as a key comparison indicator between new settlements in England.

Land allocated for open space in Welborne, Northwest Bicester and Lightmoor is less than 43 per cent. Land allocated for residential use in Cambourne and Rackheath is more than 48 per cent. The first set of figures is below the average for new settlements in England; the opposite is true for the latter set of figures.

Second indicator: Residential area

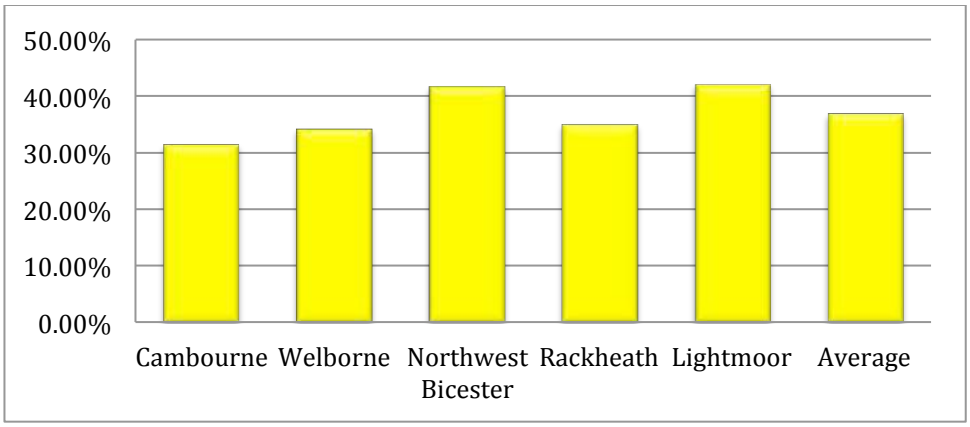

Figure 5.25 Residential area as a key comparison indicator between new settlements in England.

Land allocated for residential use in Cambourne, Welborne and Rackheath is less than 35 per cent. Land allocated for residential use in Northwest Bicester and Lightmoor is more than 41 per cent. Thirty-five per cent is below the new settlement average in England, whilst 41 per cent is above it.

Third indicator: Commercial or office space

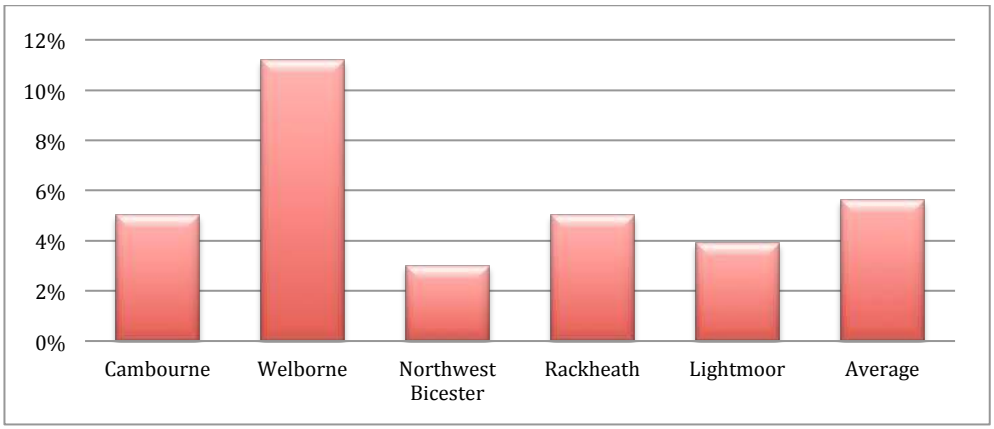

Figure 5.26 Employment areas as a key comparison indicator between new settlements in England.

Welborne has allocated more than 11 per cent of its total area for employment. This is above average. Cambourne and Rackheath are, as the graph shows, below the average, as are Northwest Bicester and Lightmoor.

Fourth indicator: Roads

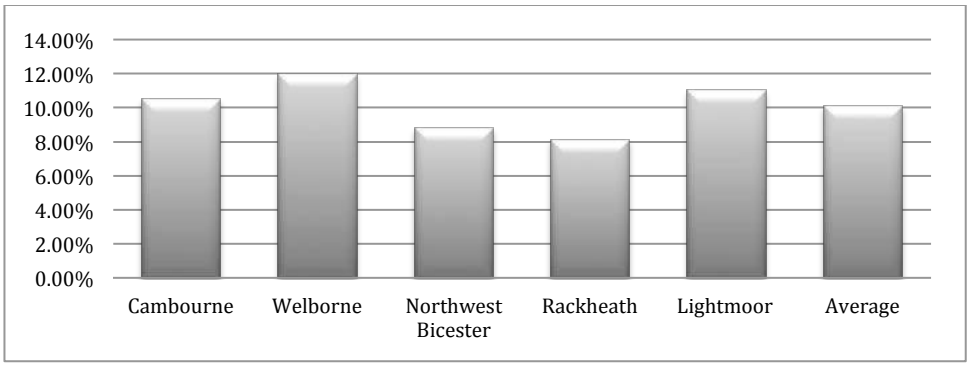

Figure 5.27 Roads as a key comparison indicator between new settlements in England.

Cambourne, Welborne and Lightmoor has allocated more than ten per cent of their total areas for the construction of roads, which is above the new settlement average in England. With less than nine per cent, Northwest Bicester and Rackheath are below average.

Fifth indicator: Community facilities

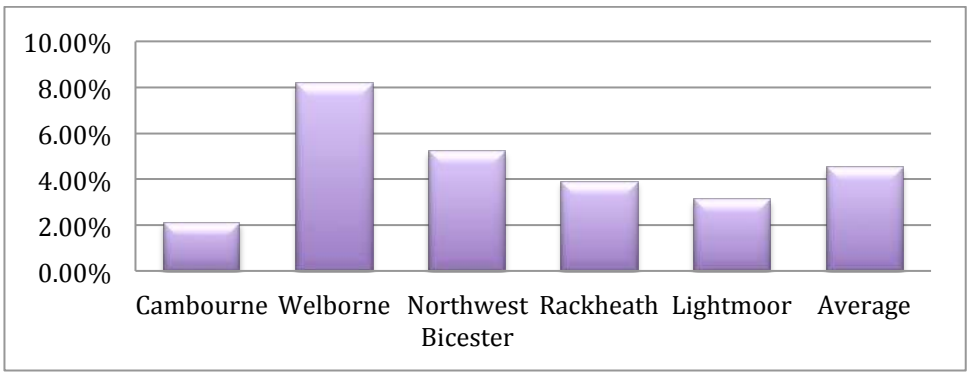

Figure 5.28 Community facilities as a key comparison indicator between new settlements in England.

As Figure 5.22 illustrates, Cambourne, Rackheath and Lightmoor have been allocated less than four per cent of their total areas for the construction of buildings such as community facilities, which is below the new settlement average in England. Welborne and Northwest Bicester have allocated more than five per cent, which is also above the new settlements average in England.

5.4 Key challenges of implementing new settlements in England

In terms of the availability of land and land ownerships, in all cases, the land has a number of different ownerships that need to be assembled so that landowners are agreed on the planning direction (Jenny Barker, interview, 2013).

They have got to work with them all individually, or else they will not come together. One of our biggest challenges is trying to keep the development as one whole development while working with different landowners who want different things and have different views about how the development should be built. That is very challenging (Peter Home, interview, 2013).

Getting the right land in the right place and at the right price with multiple land ownerships over large sites is difficult to integrate in the local plan process (Katy Lock, interview, 2013).

A second challenge is that of infrastructure and transport. It is difficult to begin working on transport because of the high level of infrastructure that needs to be put in place, making it difficult to get large sites underway (Jenny Barker, interview, 2013).

'There is a difficulty in making sure that we can actually deliver a scheme for 6,000-6,500 homes with the amount of infrastructure that they need' (Peter Home, interview, 2013).

There is a lot of risk and uncertainty involved in planning for new communities because while the financial benefits have been proven, they often only arise after a long time has passed. There is also the large burden

of up-front infrastructure costs. How to capture the rise in land value in the right way, at what point to announce them, when should local authorities put them in the local plan, how to de-risk development enough through your local plan processes in order to encourage the private sector to invest in new communities and how to bridge the gap in infrastructure investment if local authorities are not reaching the private sector are all difficult questions to answer. Where does this money come from when local authorities do not have much money at the moment? Additional issues relate to planning and delivery and local authorities dealing with a lack of strategic planning (Katy Lock, interview, 2013).

The roads in this area are already very congested. The main complaint of the local population is what this new development will do to the traffic on the roads. Their fear is that it will cause traffic jams and congestion everywhere. ‘We have a very big challenge to show how the traffic can be dealt with in a way that is not going to grind everything to a halt in the area’ (Peter Home, interview, 2013).

Key challenges always include educational needs and creating a community when there was no community previously. The biggest challenge of any new community or new development is how to create a community early on, because the danger is that there may be an impact on crime and mental health, and this was faced by Cambourne in its early stages (Edward Durrant, interview, 2013).

5.5 Conclusion

This chapter of the research discussed the ways of implementing the concept of new settlements in England as a case study. It investigated related planning policies that have influenced the planning of new settlements in England and considered the most important changes in the transfer of powers from central to local government.

England cases gives an over view of how can new human settlement can be implemented in bottm –up approach witch as will as England allow the author to investigated small sizes new settlement .the new settlements in England (Cambourne, Welborne, Northwest Bicester, Rackheath and Lightmoor) were compared to outline the characteristics of these new settlements in England .This chapter summarised the most important changes and the most significant challenges faced by local authorities. The key challenges can be summarised as follows:

There is lack of strategic planning and change in policies has impacted on new settlements. The availability of land and land ownerships is problematic as will as the need to invest in infrastructure and transport necessitates up-front infrastructure costs. Creating a cohesive community is difficult. There have been substantial financial and staff cuts. In addition, there is more pressure on local authority budgets, making it difficult to allocate one-size-fits-all sets of criteria in different locations. And finally Existing communities are often against development. The next chapter will investigated the second case study for this research .

CHAPTER 6

New human settlement in Saudi Arabia

6.1 Introduction

This chapter discusses the ways of implementing the concept of new human settlements in Saudi Arabia as a case study for this research. It summarises the most important policies that have influenced the planning of new human settlements in Saudi Arabia and considers the most important changes in the transfer of powers from central to local government. This chapter is divided into seven sections. After the introduction, the second section addresses the implementation of new settlements in Saudi Arabia. The third section looks at new settlements at the local level, whilst the fourth section analyses cases of new settlements in Saudi Arabia. Section Five outlines challenges in the implementation of new settlements in Saudi Arabia. Lessons learned from the Kingdom of Saudi Arabia are discussed in Section Six. The last section of the chapter is a conclusion.

6.2 New settlements at a national level

Saudi Arabia is a developing country located in Western Asia, with a total land area of 2,149,690 square kilometres and a total population of 27,345,986. The Kingdom's economy depends heavily on the export of oil and petrochemical industries. GDP is US$718.5 billion (Central Intelligence Agency, 2014). Saudi Arabia has a long-term strategy for its economy, which presents the following vision for the country:

> By the will of God, by 2024, the Saudi economy will be a diverse, thriving and prosperous economy based on sustainable foundations. It will extend rewarding work opportunities to all citizens, will have a high quality education and training system, and will provide excellent healthcare for all, in addition to all the services necessary

> for ensuring the welfare of all citizens, while safeguarding social and religious values and preserving the national heritage as well as the environment (Long-term Strategy for Saudi Economy, 2005, p. 52).

The government started to apply this vision through five, short-term, five-year plans. The Eighth Development Plan was the first stage and ran from 2005 to 2010. The current plan is the Ninth Development Plan, which started in 2010 and has an end date of 2015.

Figure 6.1 Saudi Arabian Location (Ezilon Map, 2009)

Saudi Arabia faces many challenges. More than half of the population is young; aged between 15 and 30 (Central Intelligence Agency, 2014). The country has a high urbanisation rate, reaching 82% in 2011. There is a high demand for housing of approximately 300,000 units per year, while supply is only equal to approximately 90,000 units per year. Population is concentrated in the major cities of Riyadh, Jeddah, and Mecca. In addition,

there is continuous population migration from rural areas to the major cities, especially by those seeking job opportunities (Central Intelligence Agency, 2014).

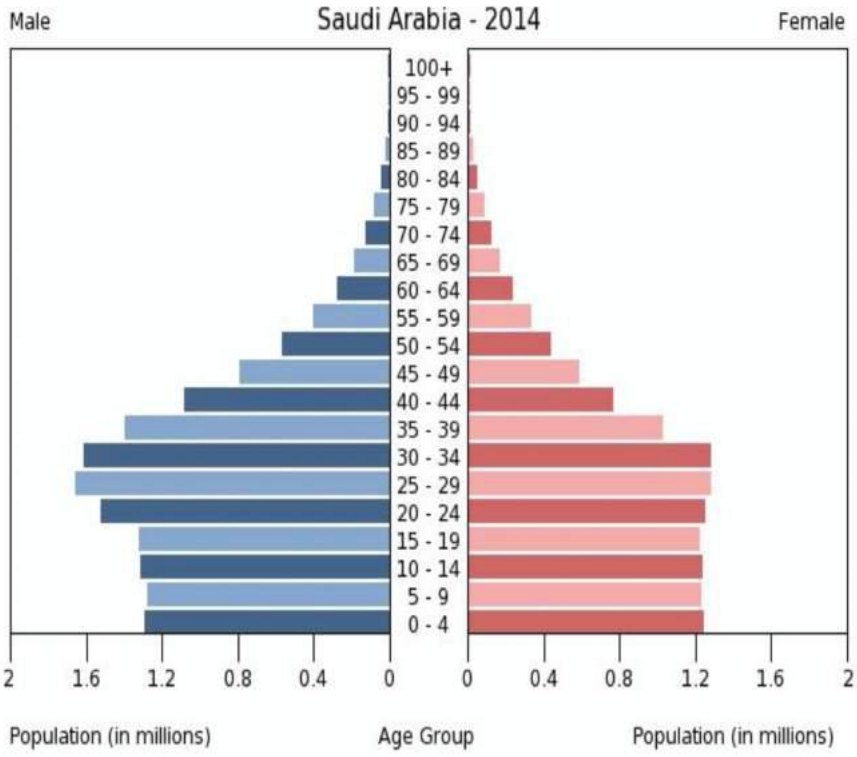

Figure 6.2 The population in Saudi Arabia (Central Intelligence Agency, 2014b)

The Saudi government has prepared a plan to establish a new settlement development tool, which will provide a sustainable solution to address the high rate of unemployment, which has reached 11.8%, (Central Intelligence Agency, 2014). The new settlements will achieve a balance between the regions, whilst reducing immigration to big cities is designed to achieve diversity in sources of income and lessen the present dependence on oil as a major source of income (Central Intelligence Agency, 2014). New settlements are intended to provide housing which helps meet the constant demand for housing (Swiss Business Hub GCC, 2010).

The new settlements are planned to reduce migratory pressure on major cities by creating opportunities and space for redevelopment. The objective is to achieve the principles of sustainability through minimising the use of resources (Kalilel, interview, 2014). New settlements used a key tool introduced by the government (the 10*10 plan), and this helped to place Saudi Arabia in the top ten countries in the world in terms of competitive investment by the end of 2010 (Swiss Business Hub GCC, 2010).

New settlements in Saudi Arabia are designed to develop and operate the most advanced urban communities with regard to sustainability. These "Economic Cities" are new settlements, and were developed on the basis of sustainable principles by offering a place for people to live and work in a low-pollution environment with high quality housing, modern amenities, sports and recreational facilities, and specialist health care (Swiss Business Hub GCC, 2010). The new settlements offer an unparalleled standard of living in the Kingdom and achieve this by being designed to provide an attractive place for business and people with their families.

In addition to the objectives noted, the principles of new settlements in Saudi Arabia can be summarised as follows:

- The first principle is based on greenfield opportunities and technological solutions and, in addition, provides a modern network of information technology that has a significant impact on the competitiveness of cities and sectors at a global level.
- The second principle involves private sector participation, and leads to the development of new settlements without further cost to the government. The role of the private sector in the development of new settlements relates to preparing the master plan and the design of the buildings. The private sector is also responsible for the development of the infrastructure, construction and roads of such settlements. In addition, the private sector has the opportunity to

purchase and own land and has responsibility for investment and finance as well as managing and operating the new settlements.

- The third principle concerns creating an attractive place for investment to attract companies and the private sector to provide employment opportunities. Through so doing it is hoped that the new settlements will be attractive places in which to live and work (Saudi Arabian General Investment Authority, 2006).

The government has an ambitious plan for the development of new settlements in each region of the Kingdom. The first stage of this was limited to six new settlements and four selected sites for the establishment of new settlements have been approved. Cities will be linked to the new settlements with major city railway networks. Each new settlement will be planned in accordance with local need (Saudi Arabian General Investment Authority, 2006).

Figure 6.3 Map showing the location of new settlements in Saudi Arabia (Saudi Arabian General Investment Authority, 2006).

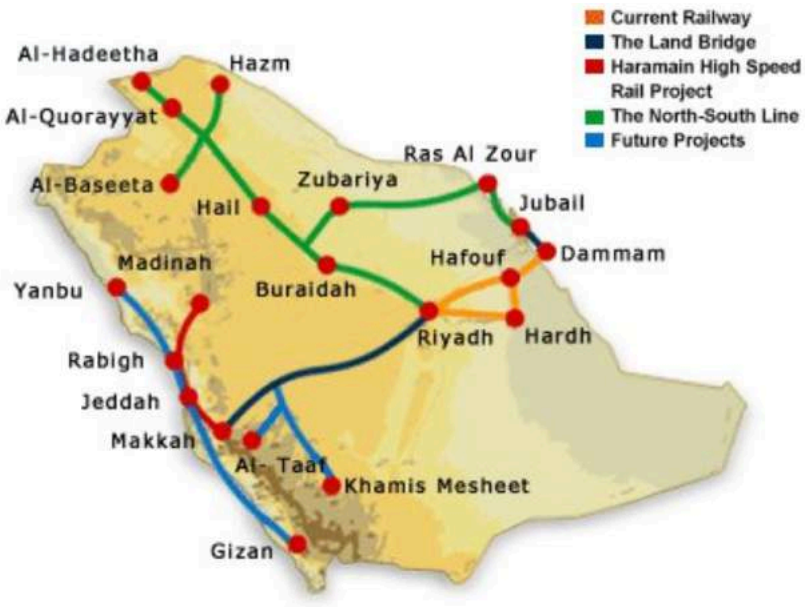

Figure 6.4 Map showing current and proposed rail network linking the settlements and cities (Swiss Business Hub GCC, 2010).

6.3 New settlements at a local level

The central government of Saudi Arabia decided to implement the new settlement concept without regard to the existent regular planning system. The main reason for this is that it was recognised as a special development to avoid any negative effect from the existing planning system.

The central government of Saudi Arabia decided to give more power to local authorities; the primary reason for this was that it would be difficult to manage all of the new settlements at the same time in terms of daily decision-making. In September 2010, the central government of Saudi Arabia established the Economic Cities Authority.

The responsibility for implementing the new settlements was then transferred to this newly established Economic Cities Authority, whose main tasks are: to review the action plan for new settlements; to deal with planning applications; and to issue permits for all activities located within

the new settlements, to supervise and monitor business entrusted to the private sector.

The new settlements are being developed according to four key design principles: a sustainable economy based on the features of global competitiveness; the establishment of a diversified economic base; environmentally-friendly industries; and the development of a knowledge economy, energy, transport and logistics (Saudi Arabian General Investment Authority, 2006).

The size of the new settlements varies, from the relatively small new settlement in Medina to the new settlement in Rabigh, which covers the largest area and will have a total population of about 2 million people. It will be the biggest new settlement built in the world.

Planning system in Saudi Arabia. New settlements are approved Development zones in particular. Local governments have directly linked to the government centralization. The positive in this step is complete move away from the bureaucracy and the delay in the decision on new settlements in Figure 6.5.

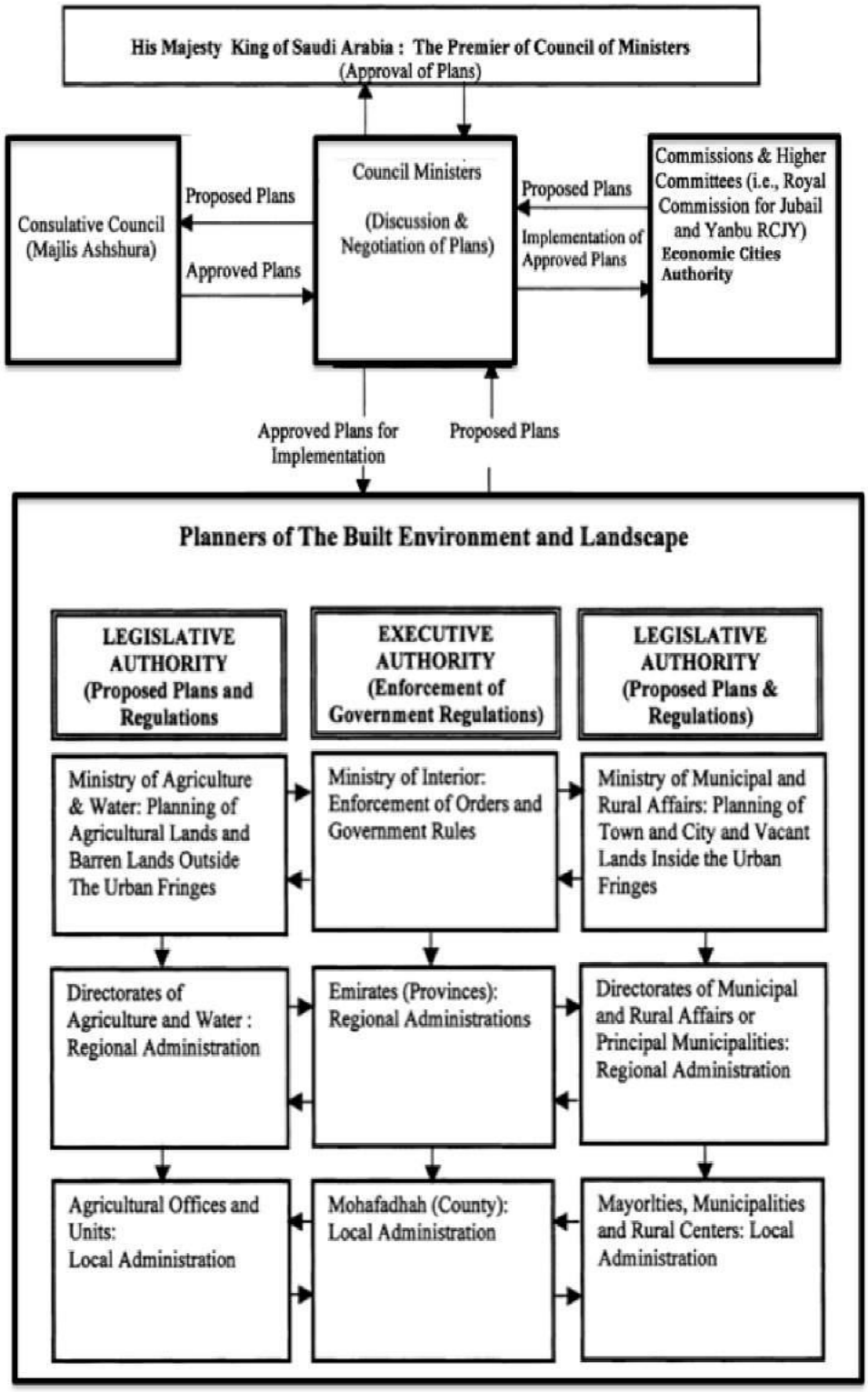

Figure 6.5 The planning system in Saudi Arabia (Al-But'hie and Saleh, 2002. p 5).

Figure 6.6 Map of New settlement scales in Saudi Arabia (*The New York Times, 2010*)

Economic city	**KEC**	**JEC**	**PABMEC**	**KAEC**
Location	Madinah	Jazan	Hail	Rabigh
Area	480	11300	16500	16800
Population	150,000	300,000	300,000	2 million
Jobs	20,000	100,000	55,000	1 million
Cost (USD)	7 bn	27 bn	8 bn	27 bn

Figure 6.7: New settlement by size in Saudi Arabia (Saudi Arabian General Investment Authority, 2006)

The following sections consider the four cities of (New human settlement in Madinah , Jazan, Hail and Rabigh) in turn, presenting an account of the planning and development of each based on an analysis of documents and the findings of a series of interviews that were conducted with those involved in their development.

6.4 Cases of new human settlements in Saudi Arabia

6.4.1 New human settlement in Madinah (Knowledge Economic City)

The Knowledge Economic City is a new settlement located next to Madinah city. The site was selected in June 2006, and is located four miles from the international airport and three miles from the Holy Mosque of the Prophet

Mohammed. The residential areas can accommodate approximately 200,000 inhabitants on a total land area of about 480 hectares. The new settlement is planned as a mixed-use development, including an educational entertainment themed park as well as two research centres. The first is a medical sciences and biotechnology centre, the second is an Islamic civilization research centre. A high-tech park and business district is also planned.

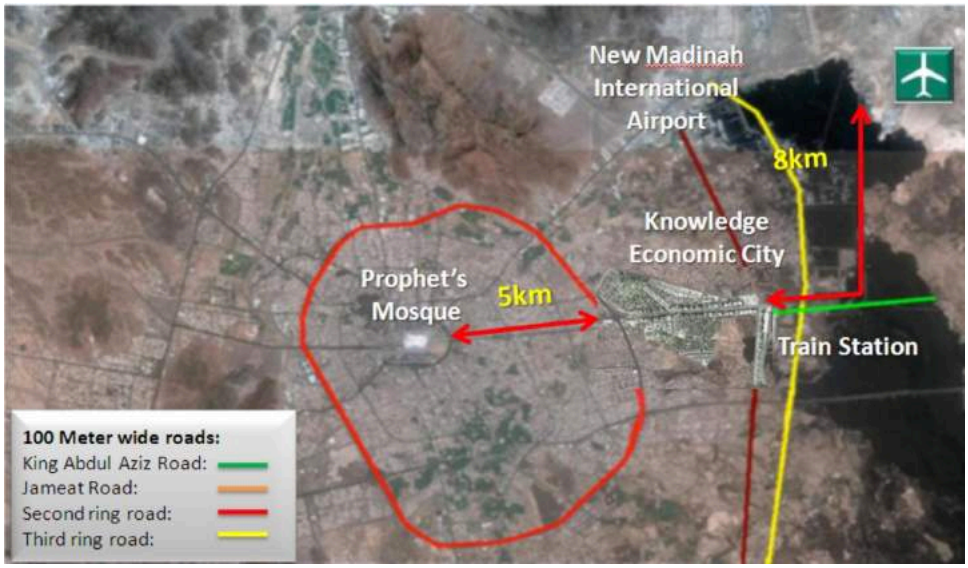

Figure 6.8 Map showing the location of new settlements in Madinah (Knowledge Economic City, 2014)

In 2010, five developers came together and established a new company, the 'Knowledge Economic City Company', to manage and develop the new city. The vision of the new company is: 'Attracting Muslims from around the world' by focusing on knowledge-based industries with an Islamic focus and providing services (Saudi Arabian General Investment Authority, 2006).

Figure 6.9 Map shows the master plan for new settlement in Madinah (Knowledge Economic City, 2014)

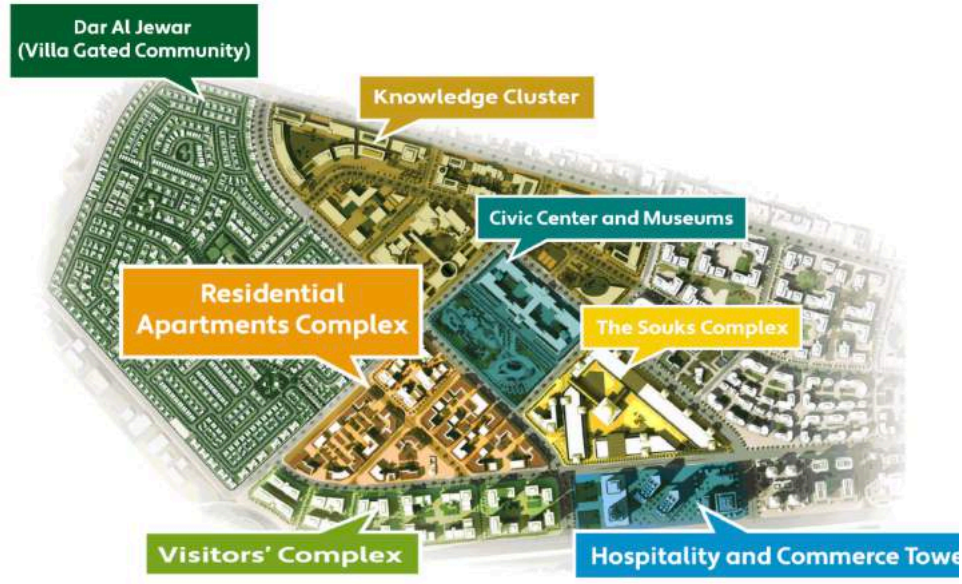

Figure 6.10 Map shows the first phase of the development for new settlement in Madinah (Knowledge Economic City, 2014)

The company has completed the planning phase of the city and has begun the development of its infrastructure. The first phase of the project was initiated in 2010 and finished in 2015.

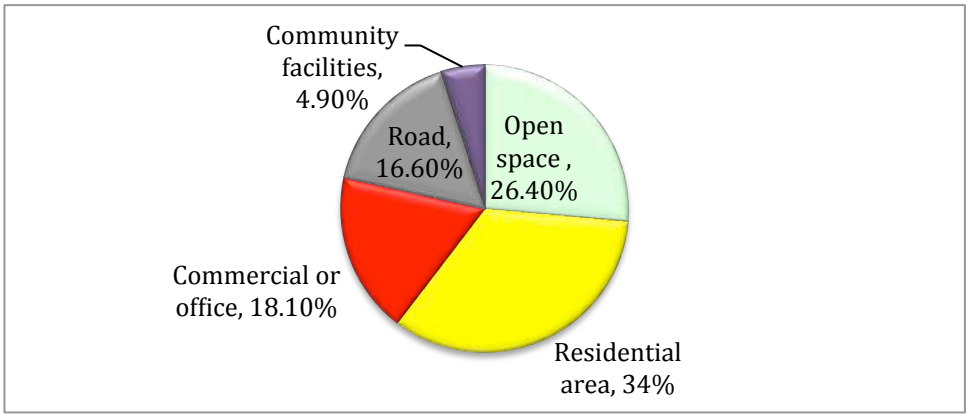

Figure 6.11 shows land use for new settlements in Madina (Knowledge Economic City, 2014)

The new settlement in Madinah is not a standalone settlement. It is located next to Madinah city at the planning stage of the master plan and was developed at the same time as Madinah action plan and core plan (Knowledge Economic City, 2014). The reason for this was to make sure that the new settlement was integrated with the Madinah city to minimise any negative impact on communities living next to the new settlement. The main challenges facing the new settlement in Madinah, according to two interviewees, were funding and investment in infrastructure (Bukari interview with author; Zahrani, interview with author). However, there are different views in terms of dealing with the implementation of such projects and the way of dealing with funding issues. The new settlement in Madinah prepared the individual phases of each project to comply with market demand. Each company started by developing residential units which have been sold in a short time. Thereafter, each company invested in the infrastructure needed for the second phase (Bukari, interview, 2014).

The functions of the Knowledge Economic City Company deviated from the planned route and it became just a real estate company, developing and

marketing homes, and did not focus on the core activities of providing employment opportunities and attracting companies to transform the knowledge economy of the city (Zahrani, interview, 2014).

6.4.2 The new settlement in Jazan

The new settlement in the south-western region of the Kingdom is located 31 miles from Jizan city and is known as Jazan Economic City. The new settlement is a standalone new settlement that will be developed on approximately 11,300 hectares, with seven miles of waterfront. It will accommodate 200,000 people. The new settlement is planned as a mixed-use development including a seaport and industrial zone, a logistics business and cultural centre, and a health and education facility (Jazan Economic City, 2014).

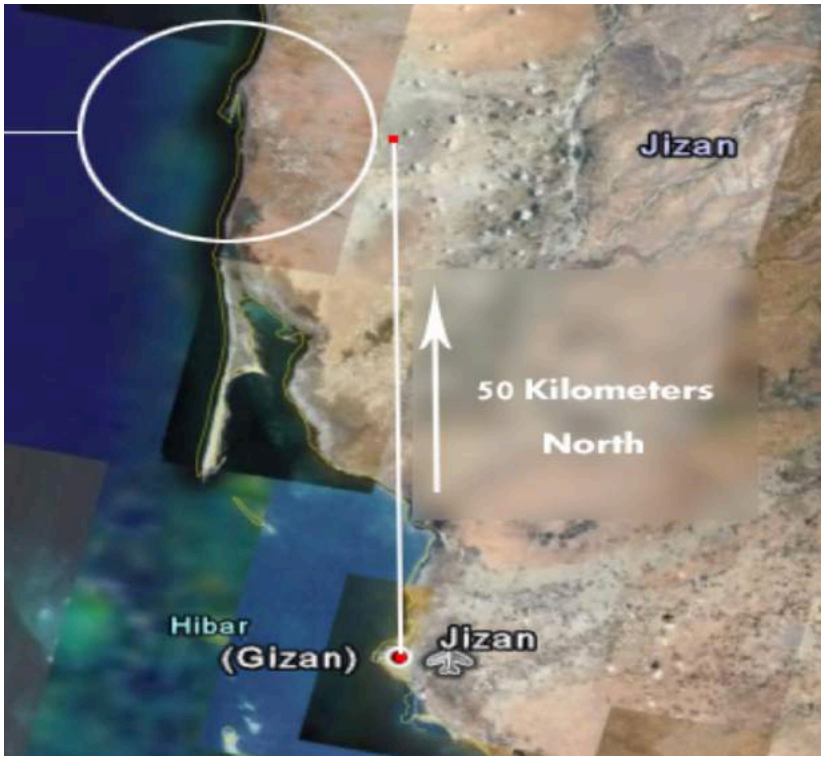

Figure 6.12 Map showing the location of new settlement in Jazan (Google Earth, 2014).

Jazan was established on 4 November 2006 at a ceremony hosted by the people of the region, and was attended by the former Malaysian Prime Minister Mahathir Mohamad. The vision is to achieve competitiveness in industry by focusing on heavy industry agribusiness, along with energy and labour-intensive industries. Three factories were established first: an iron and steel complex; a refinery and aluminum smelter – which is a Chinese international group investment; and a fish processing plant and dry dock, whose main developers are MMC International and the Bin Laden Group.

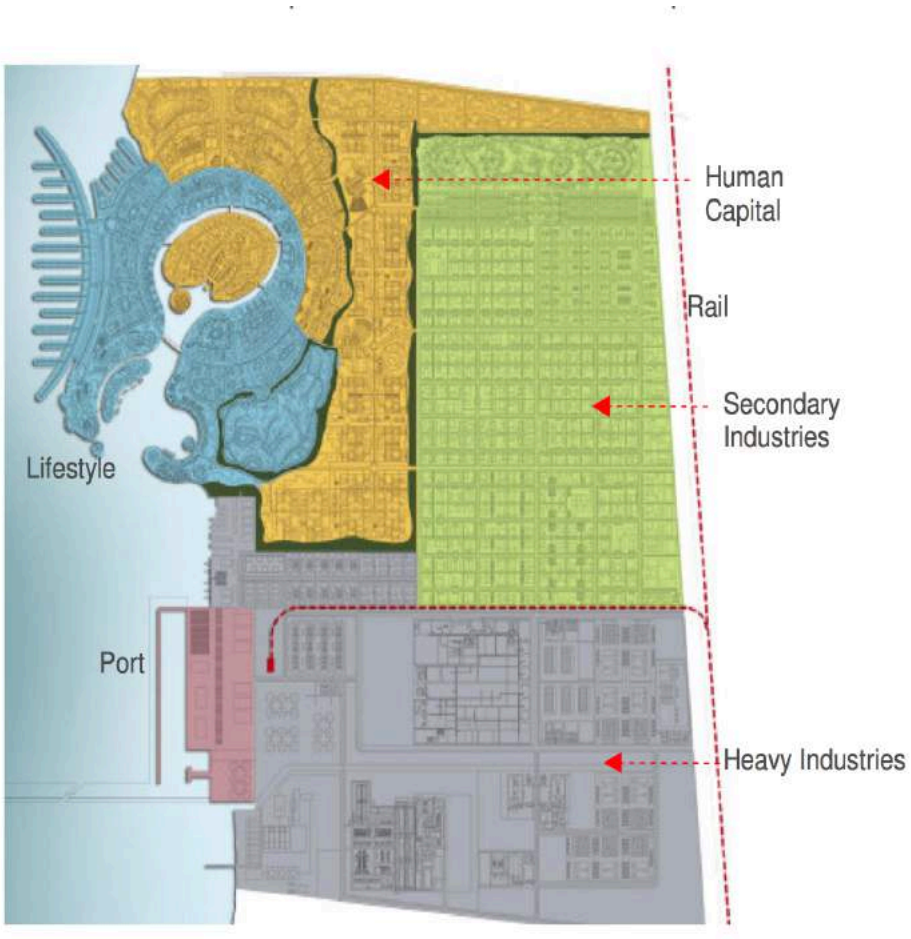

Figure 6.13 Map showing the master plan for new settlements in Jazan (Jazan Economic City, 2014)

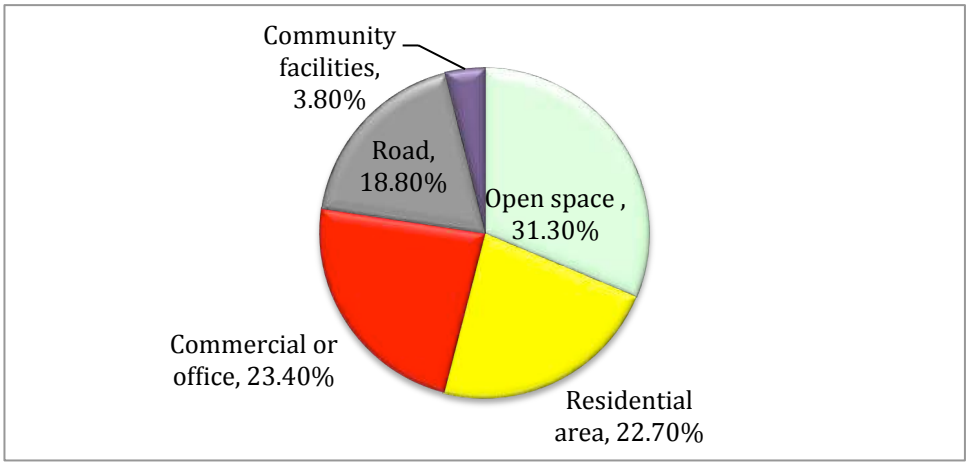

Figure 6.14 showing land use for new settlements in Jazan (Jazan Economic City, 2014)

The city has now been developed to such an extent that the planning process has been completed. The implementation process began in 2013 instead of 2010, which was the date when the work was initially supposed to start. Hilal Alharthei (planner at Economic Cities Authority, interview with author , 2014) and Majed Ali (Project Manager at Economic Cities Authority, interview with author, 2014) discussed two issues that affected the project and led to delays in the development process. The first was land ownership; the compulsory purchase decision took more time than expected (Majed Ali, 2014). The second was that, when the company started to develop the infrastructure, an ancient tomb was discovered during the preliminary site inspection. Indeed, the presence of an old cemetery, that was almost 100 years old with 40 graves, as reported by the elderly residents of the neighbouring villages, led to the cessation of work on the site (Alharthei Hilal, 2014).

In March 2013 the Saudi Aramco Company was assigned to develop the infrastructure in the Jazan new settlement. This was a task that was

supposed to be carried out by the Jazan Economic City Company; the reason for the transfer of responsibilities was delays in implementation (Sarif Bader ,interviewed by author, 2014).

6.4.3 New settlements in Hail

This new settlement is located 14 miles north of Hail city and is known as the Prince Abdulaziz bin Mousaed Economic City. The new settlement is a standalone new settlement that is planned to accommodate 300,000 people. This will be established on an area comprising about 16,500 hectares and is planned as a mixed-use development, including educational, agricultural, industrial, and housing areas.

Figure 6.15 Map showing the location of the new settlement in Hail (Google Earth, 2014)

The vision of the new settlement is ‘a new hub for logistics in the region’ focusing on: logistics, agribusiness, minerals, and construction materials (Saudi Arabian General Investment Authority, 2006).

Figure 6.16 Map showing the new settlement in the Hail master plan (Prince Abdulaziz bin Mousaed Economic City, 2014)

Two interviewees, Majed Ali (interview, 2014) and Moataz (interview 2014) suggested that among the challenges faced by the new settlement in Hail which led to delays in the implementation of the project, was the fact that government support was affected by the financial crisis. Directives from state-supported medium-sized companies had to assign projects, but these companies were negatively affected by the global economic crisis (Hamad interviewed by author, 2014). The consortium developing the city are the Rakisa Holding Company and Ahmad Hamad Algosaibi & Bros., with ten other companies from the Arabian Gulf also being involved. These companies have failed to work together to establish a company to develop the project. Added to that, two of the companies are threatened with bankruptcy (Ali, interviewed by author, 2014).

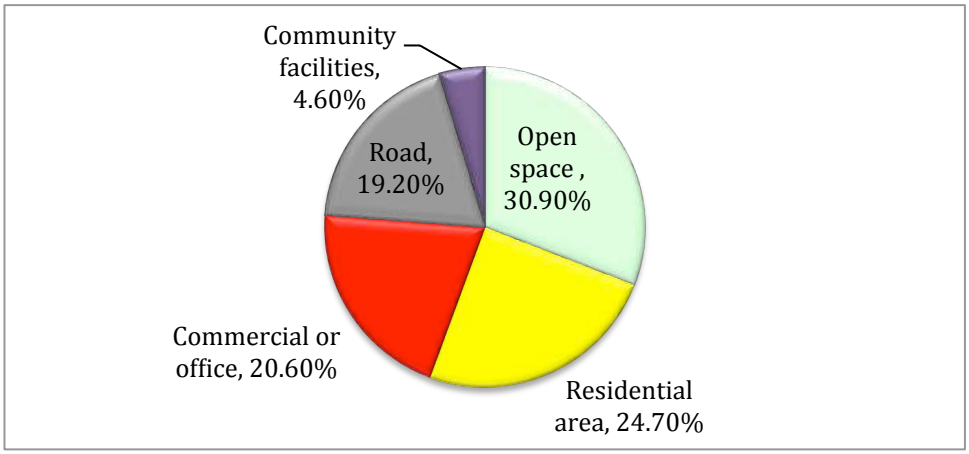

Figure 6.17 Land use for new settlements in Hail (Prince Abdulaziz bin Mousaed Economic City, 2014)

In 2013 the government decided to cancel the contract with the current companies and search for other companies to develop the project. However, local companies were hesitant to engage in such costly projects without clear support from the government. As a result, the government considered a range of options, such as reducing the size of the settlement, searching for developers from outside Saudi Arabia, and direct government investment. The project is of great importance for the region in particular and the state in general. Abandoning the establishment of the new settlement is seen as undesirable (Majed Ali, interviewed by author, 2014).

6.4.4 New settlements in Rabigh

The new settlement in the west of the Kingdom is located approximately 80 miles north of Jeddah and is known as the King Abdullah Economic City. The new settlement will be developed on approximately 16,800 hectares (first phrase 6720 hectares) and will accommodate 2 million people. The new settlement is planned as a mixed-use development, including a seaport and industrial area, beach resorts, and residential neighborhoods (King Abdullah Economic City, 2014).

September 2006 saw the founding of the company responsible for the development of the new settlement in Rabigh (Emaar) whose vision for the new settlement is that of “a world class fully integrated economic city” (Saudi Arabian General Investment Authority, 2006). After the completion of the planning phase of the city, infrastructure work began in 2010. In 2014 the first phase of the project was developed. The port began to receive ships, and 600 housing units were built. The Economic Cities Authority Office building and King Abdullah Economic City company office were also completed.

The key facilities required by this new community include health care, with one basic medical clinic required for every 5,000 residents and one hospital for every 20,000 residents. There are also education provisions with one primary school for every 5,000 residents and one high school for every 15,000 residents (King Abdullah Economic City, 2014).

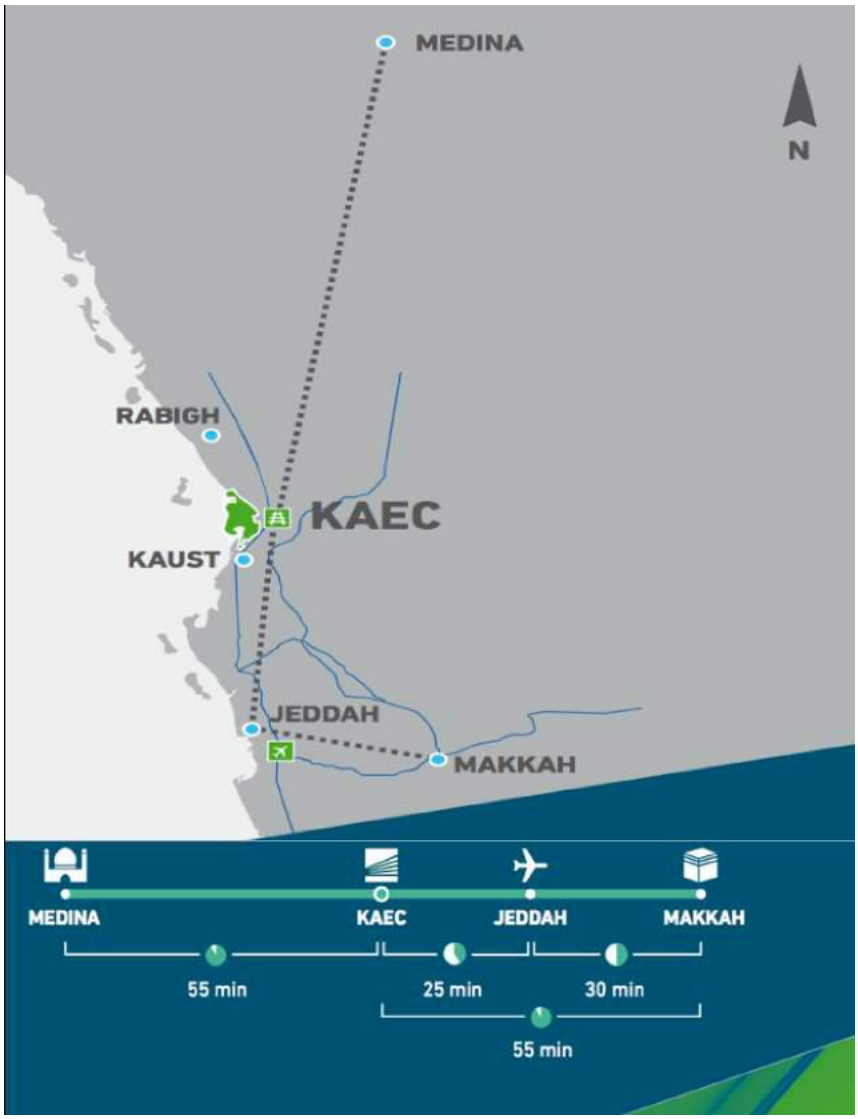

Figure 6.18 Map showing the location of new settlement in Rabigh (King Abdullah Economic City, 2014)

Figure 6.19 Map showing the master plan for new settlement in Rabigh

(King Abdullah Economic City, 2014)

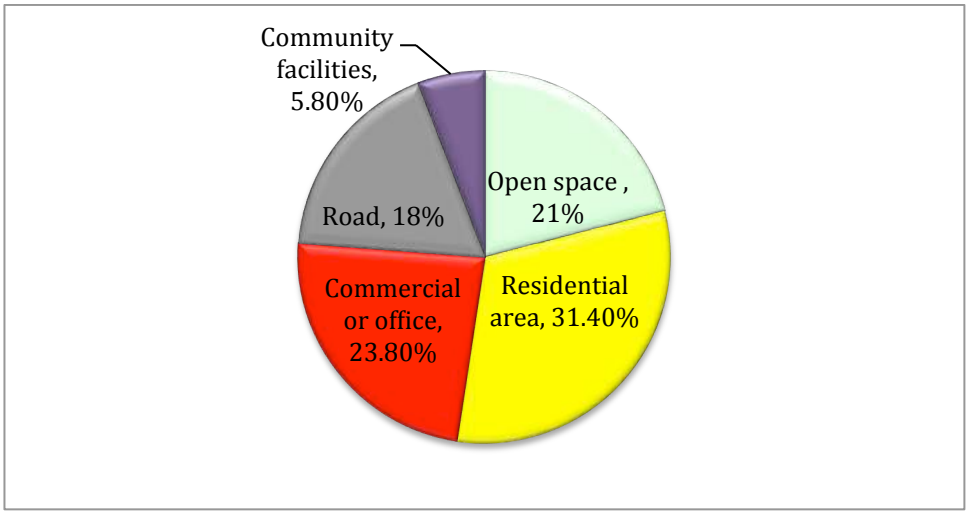

Figure 6.20 Land use for new settlements in Rabigh (King Abdullah Economic City, 2014)

Actions that have been implemented for the new settlement in the Rabigh master plan include, in the first instance, reducing the reliance on cars for transport, encouraging public transport such as trains and buses, and encouraging walking and cycling. Secondly, to protect the city from flooding, a 100-year flood system was used in the master plan, utilising about 140 km of a natural valley, whereby rainwater would trickle down and replenish groundwater, rather than flood the new development. Thirdly, the city applies a 'reduce, reuse and recycle' strategy as a sustainable solution for water management and the protection of energy sources. In addition, the city is linked to the national electricity grid, uses captive diesel generation, and solar power. Fourthly, green building standards are used to reduce energy consumption and minimise negative environmental impacts. Finally, parks account for 4.5 square kilometres, taking into account the growing of indigenous desert plants that do not consume a lot of water (King Abdullah Economic City, 2014).

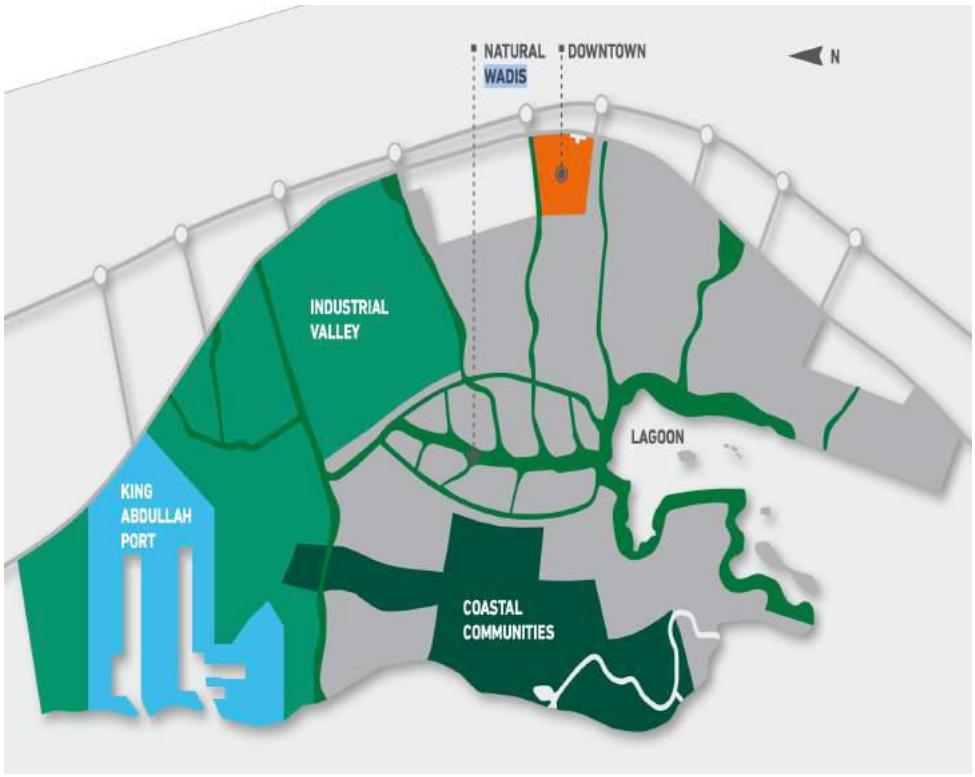

Figure 6.21 King Abdullah Economic City Master Plan 2 (King Abdullah Economic City, 2014).

The key challenges faced in implementing the new settlement in Rabigh were associated with issues of finance and infrastructure investment given the size of the city. In April 2013 a loan was granted from the Saudi government valued at about £830 Million for the new settlement in Rabigh. The developer received funding of £90 million in September 2014 for seven years, and this funding has ensured the ownership of the company with regard to the seaport (Moataz interviewed by author, 2014).

The city has been designed and planned to international standards. Services and communications technology and high quality infrastructure were implemented at a high cost. One resultant challenge is providing services at an affordable price to all residents, for example, transport and Internet access (Ali, interviewed by author, 2014).

Other challenges include the fact that property ownership laws do not allow foreigners to own properties. However, in October 2012, a law was passed to allow non-Saudis to own real estate in the new settlement (Zahrani, interviewed by author, 2014). In spite of the new laws allowing foreigners to own real estate property in Saudi Arabia, there are still challenges relating to obtaining visas to enter the country. The difficulties of obtaining visas have effects on attracting attract businesses and the construction of the new settlements (Qattan ,interviewed by author, 2014).

The climate in Saudi Arabia is also a great challenge and two interviewees, Akram and Sofia (Sarif Bader,; Akram Salim, , interviewed by author, 2014), explained the effects of climate and difficulties in the development of new settlements in Saudi Arabia regarding urban design, master plans and construction work. The temperature in the summer may reach 40 degrees Celsius. Prioritising shade is important, and needs to be taken into account in both the master plan and the design of buildings to stimulate the process of walking by building densely (Sofia interviewed by author, 2014). Regarding the difficulties involved in undertaking construction work in the summer, the Ministry of Labour in Saudi Arabia has published strict laws which restrict the hours of work at high temperatures. This means that, on summer days, labourers can only undertake five hours of work rather than the normal eight hours; this affects the timeline for project delivery (Akram Salim, Civil Engineer at Bin Laden Group, interviewed by author, 2014).

Further challenges for the new settlements exist in terms of dealing with the important issues of water and flooding. Mohammed argues that a lack of

water resources at national and regional level means that new settlements need to build sea water desalination plants to supply their needs (Zahrani, interviewed by author, 2014). In the last few years, Saudi Arabia has faced annual flooding due to climate change. New settlements meet this challenge with a valley landscape design that is used to mitigate the effects of such flooding (Sofia, interviewed by author, 2014).

6.4.5 Comparison between new settlements in Saudi Arabia

A number of indicators was used to enable meaningful comparison of the new settlements in Saudi Arabia. These indicators have been divided into two; the first section focuses on area, size, and density. The second section compares land usage.

First indicator: Housing units

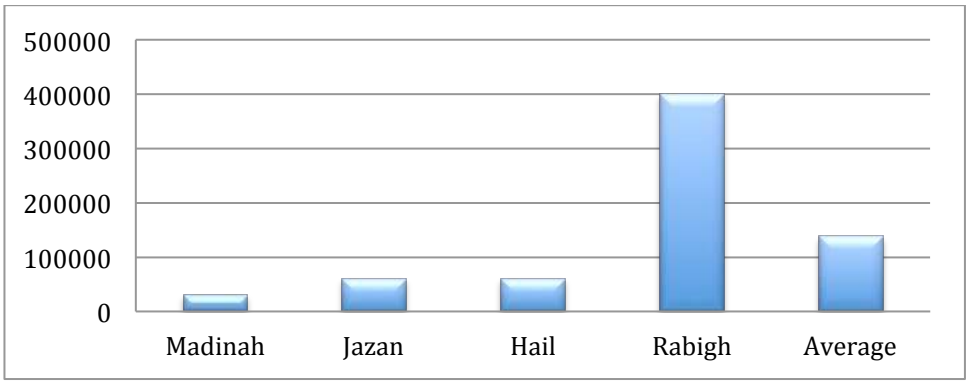

Figure 6.22 Housing units as a key for comparison between new settlements in Saudi Arabia

Rabigh has been planned to provide more than 400,000 units, which is more than the new settlements average in Saudi Arabia. Jazan and Hail have been planned to accommodate about 60,000 units, which is below the new settlements average in Saudi Arabia. Madinah has been planned to accommodate about 30,000 house units, which is below the new settlements average in Saudi Arabia.

Second indicator: Land size

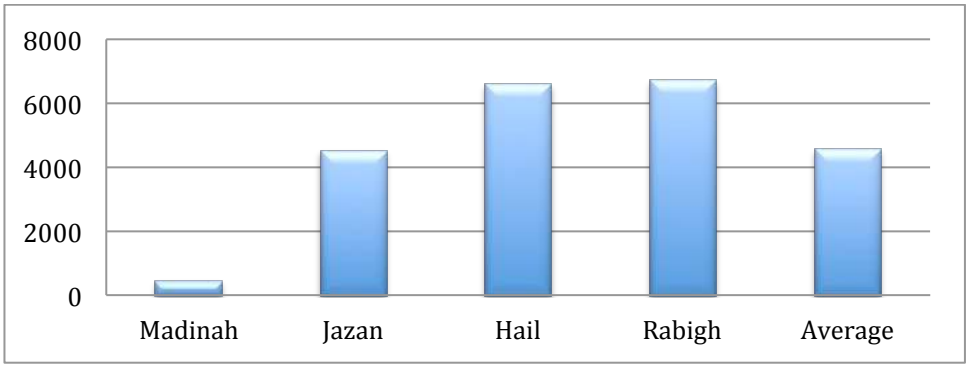

Figure 6.23 Land size as a key for comparison between new settlements in Saudi Arabia

Hail and Rabigh have been planned on large sites that are more than 6,600 hectares. This is greater than the new settlements average in Saudi Arabia. On other hand, Madinah has been planned on a site which is below the new settlements average in Saudi Arabia. Jazan has been planned on a small site of about 4,520 hectares. This is close to the new settlements average in Saudi Arabia.

Third indicator: Density

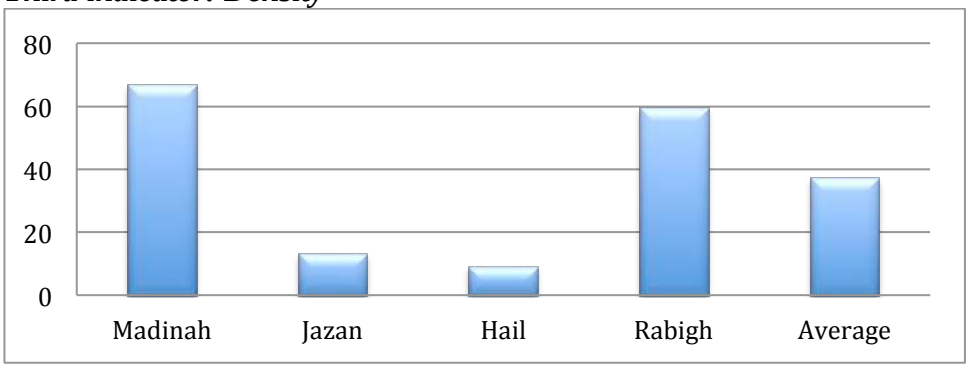

Figure 6.24 Density as a key comparison between new settlements in Saudi Arabia.

Jazan and Hail were planned with less than 13.2 dwellings per hectares; below new settlements average in Saudi Arabia. In contrast, Madinah and Rabigh were planned with more than 59.5 dwellings per hectares, which is at a level of density higher than the average for new settlements in Saudi Arabia.

Fourth indicator: Distance

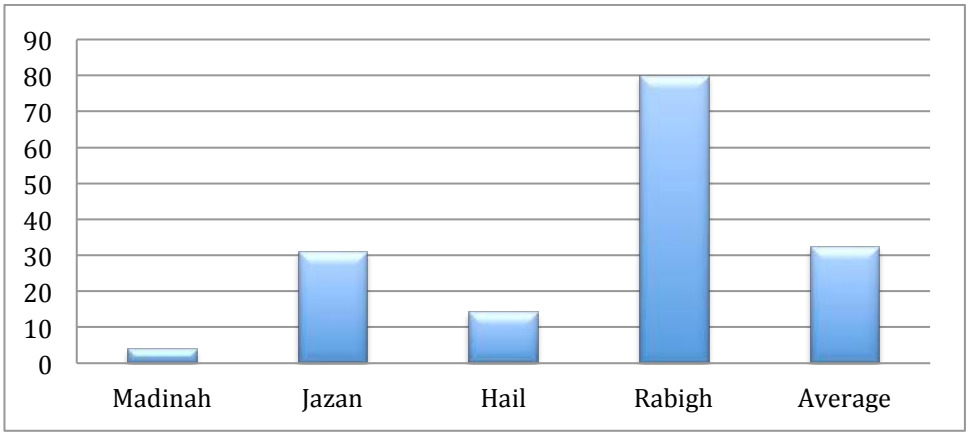

Figure 6.25 Distance from nearest city as a key comparison between new settlements in Saudi Arabia.

Rabigh is located 80 miles from the nearest city, which is more than the new settlements average in Saudi Arabia. Masinah is located four miles from the nearest city, Jazan is located 31 miles from the nearest city, and Hail is located less than 14 miles from the nearest city, which is below the new settlements average in Saudi Arabia.

The second section compares the land use

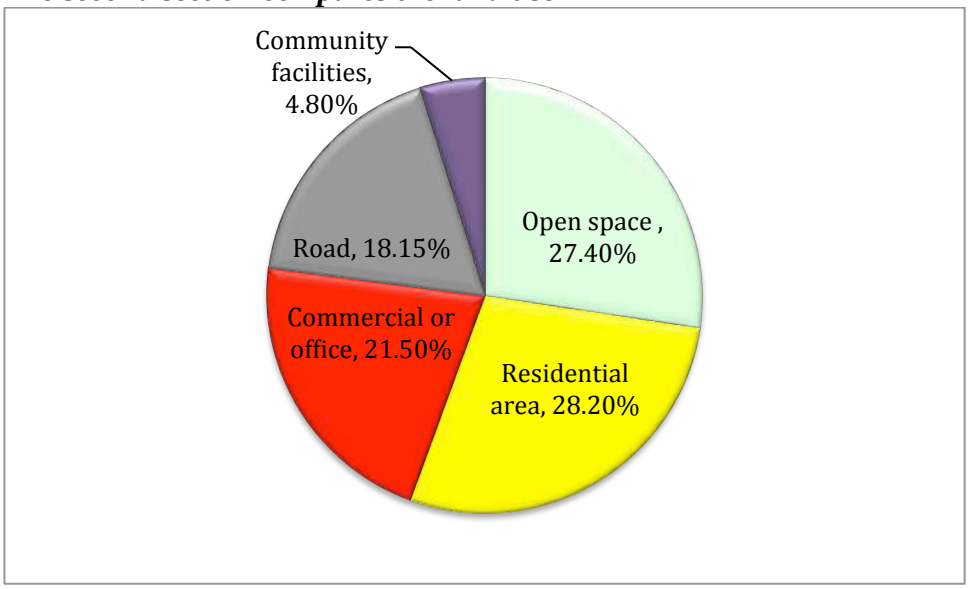

Figure 6.26 The average of land used as key comparison between new settlements in Saudi Arabia.

First indicator: Open space

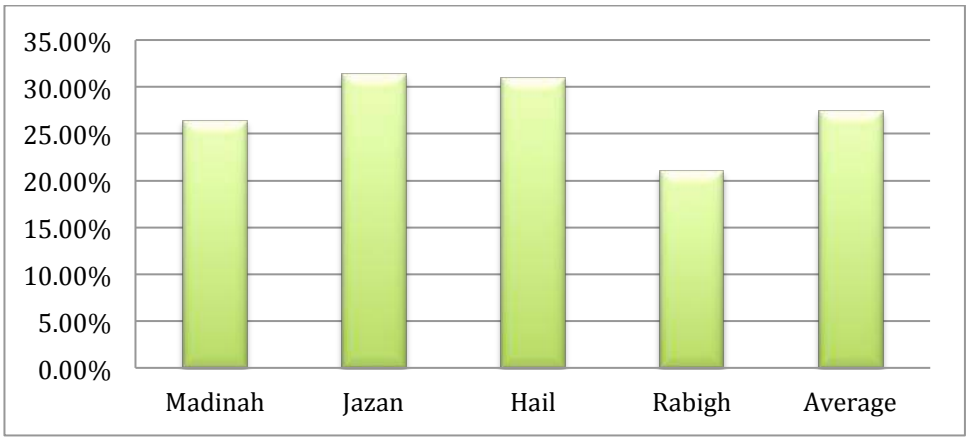

Figure 6.27 Open space as a key comparison between new settlements in Saudi Arabia.

Land allocated for open space in Madinah and Rabigh is less than 43 per cent, which is below the new settlements average for Saudi Arabia. In contrast, the land allocated for residential use in Jazan and Hail is more than 30 per cent, above the new settlements average for Saudi Arabia.

Second indicator: Residential area

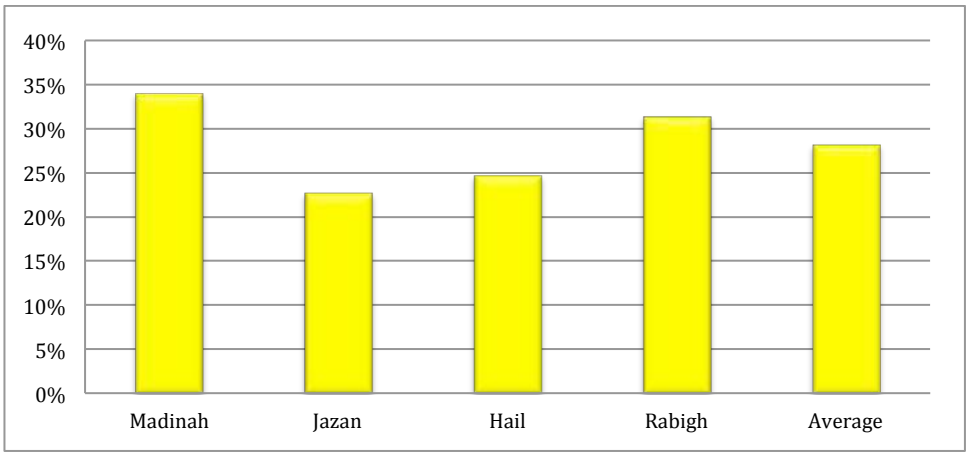

Figure 6.28 Residential area as a key comparison between new settlements in Saudi Arabia.

Land allocated for residential use in Jazan and Hail is less than 25 per cent. This is below the new settlements average in Saudi Arabia. Land allocated for residential use in Madinah and Rabigh is, in contrast, more than 31 per cent, above the new settlements average in Saudi Arabia.

Third indicator: Commercial or office space

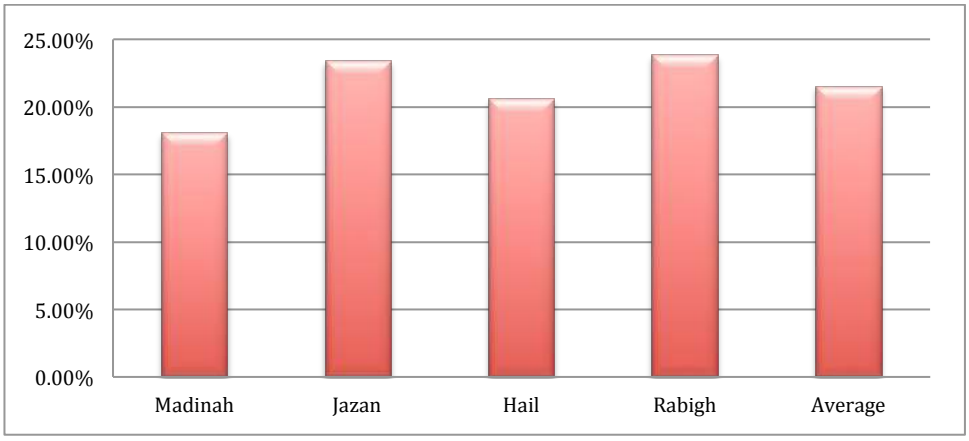

Figure 6.29 Employment area as a key comparison between new settlements in Saudi Arabia.

Jazan and Rabigh have allocated more than 23 per cent of their total areas for employment sites, which is above the new settlements average in Saudi Arabia. Madinah and Hail have allocated less than 21 per cent of their total areas for employment sites, below the average for new settlements in Saudi Arabia.

Fourth indicator: Road and transportation

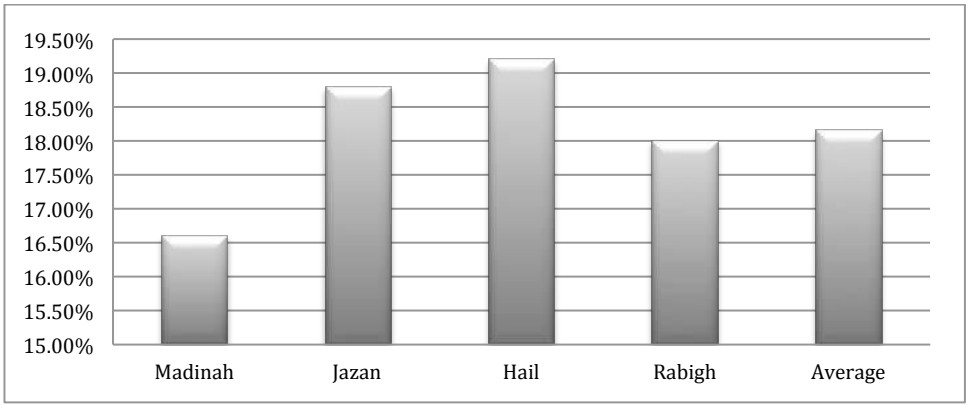

Figure 6.30 Road and transportation as a key comparison between new settlements in Saudi Arabia.

Jazan and Hail have allocated more than 18.80 per cent of their total areas for the construction of roads. Madinah and Rabigh have allocated less than 18 per cent. The figures for Jazan and Hail are above the new settlements average in Saudi Arabia, whilst those for Madinah and Rabigh are below.

Fifth indicator: Community facilities

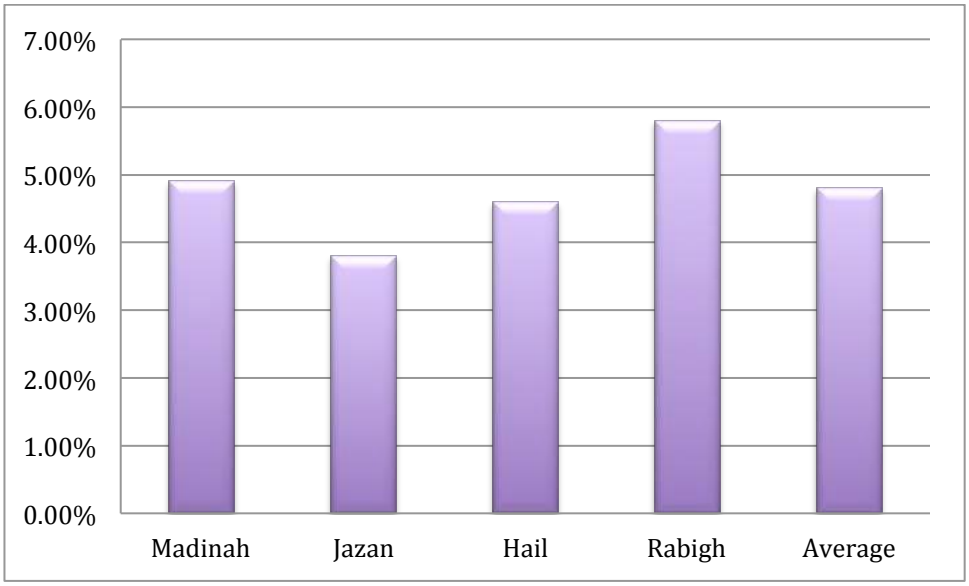

Figure 6.31 Land used for community facilities as key a comparison between new settlements in Saudi Arabia.

Representing a figure below the new settlement average in Saudi Arabia, Jazan and Hail have allocated less than 4.80 per cent of their total areas for the construction of buildings community facilities. In contrast, with more than 4.90 per cent of their total areas thus allocated, the figures for Madinah and Rabigh are above the new settlements average in Saudi Arabia.

6.5 Challenges in implementing new settlements in Saudi Arabia

After the government published the new settlements concept, the planning of the new settlements in Saudi Arabia has faced many challenges at the implementation level. They predominantly focus upon the following aspects. Planning for new settlements requires human resources and expertise in the field of building new communities. Saudi Arabia lacks the necessary human resources and practitioners (Rasheed interview, 2014). Academics and specialists in the field of architecture and planning do not seem to be involved and, in addition, the government does not seem to have

learned from successful past experiences, in particular the Jubail and Yanbu new settlements. This, it is advanced, is for two main reasons: a lack of desire to pressure them to avoid the impact on the quality of their performance, and the fact that its activity is confined to the petrochemical industries in the cities, while the new settlements have different criteria (Algamdi, interview, 2014).

To implement the new settlements, the planning concept needs to be taken through the implementation stages, such as detailed local planning, the setting of land parcel development conditions, development control and enforcement at local levels, as well as the preparation of the appropriate detailed regulatory plans. However, the current spatial and physical planning focus of the Saudi Arabia planning system only provides guidelines and principles without specific standards.

The prices of construction materials have become a further challenge. Implementation of four new settlements at one time led to a rise in demand for construction materials and, in turn, rises The rising prices of construction materials has led to a rise in the costs of construction (Rasheed, ,interviewed, 2014).

The negative effects of the global crisis have made it difficult to obtain long-term financing. This has influenced the estimated corporate expansion, which has, in turn, also affected estimated levels of investment in the new settlements.

In order to achieve their goals, the new settlements need to attract companies and factories to create jobs. They are rivals at a regional level and seek to attract investment through competition with other centres by, for instance, reducing the taxes and fees paid to manage the settlement. However, the companies that manage the new settlements face funding problems, and this has forced the companies to raise fees to collect the maximum amount of money possible. In turn, this has negatively impacted attracting investment in new settlements (Ali ,interview, 2014).

There are two different organisations for new settlements in Saudi Arabia. Industrial Cities are under the supervision of the Royal Commission for Jubail and Yanbu, whilst Economic Cities are under the supervision of the Economic Cities Authority. There is no new settlements act used for implementing new settlements and there is a need for one government organisation to oversee and follow up the process of developing new settlements (Algamdi, interview, 2014)

It is generally expected that, for a neighbourhood to function, it will possess all the self-sustaining elements that one would expect to find within a city. For instance, the neighbourhood benefits from a range of facilities and employment opportunities that, cumulatively, address the needs of the entire population of that area. The essential elements that one would expect to find in such places include shopping outlets, schools, hospitals, universities**,** housing, places of work, worship, and so on, as well as parks and, in arid hot countries, such as the Kingdom of Saudi Arabia, water. Indeed, the provision and ready availability of water is fundamental to the success any developing community.

The success for settlement is not dependent on policy. Policy is crucial, but it mainly depends on the people who live inside. If they do not have this kind of concept, do not have this kind of understanding, the eco-city will not be successful (Matlob, , interview, 2014).

6.6 Lessons learned from the Kingdom of Saudi Arabia

Strategic locations were selected for new settlements to enable fresh advantages to be enjoyed throughout the whole Kingdom. The development of new settlements has involved cooperation between the private sector and government. All new settlements have a master plan, which covers a period of 30 years – so that their longer-term development needs can be realised.

However, there have been difficulties with the schemes. There are no public transport networks currently in place to support the development of new settlements. All the necessary public transport networks, trains and buses are still under construction. There has also been no community involvement so far in the planning process and the development of the new settlements. The schemes being prepared are ambitious but they were prepared before the financial crisis, which means they are not necessarily well-adapted or feasible to implement in the current economic environment. Local companies do not have previous experience in the development of new settlements.

Nevertheless, there are opportunities to improve the implementation process of developing the new settlements in Saudi Arabia. This is evident by the fact that all the new settlements will, in the fullness of time, be linked to

public transport. In addition, there is a possibility for the involvement of the local community as some of the settlements have new communities which can be involved in the future planning processes of the areas in which they live. There is a possibility of re-evaluating city planning so that it is more flexible. There is also participation between local companies and international companies.

Whilst these positives are important to note, there are also some threats that could further disrupt the new settlements process. Faltering public transport projects may affect the success of the new settlements. A lack of community involvement may lead to a lack of development being tailored to meet their specific needs. A lack of review and assessment of the master plans for the new settlements could lead, in reality, to deviation from the stated goals of new settlements. International companies may not fully understand the characteristics and identity of the local community.

6.7 Conclusion

This chapter has focused on implementing the concept of new settlements in Saudi Arabia. In so doing the chapter has summarised the most important policies that have influenced the planning of new settlements in Saudi. Saudi Arabia case study allow the author to investigated how new settlement can be implementing by top- down approach as will as it allow the author to investigated large scale new settlement .

This chapter has investigated the most important changes and has noted the most significant challenges faced by central government and local authorities as well as the lessons that have been learned. This chapter

analysed specific examples of new settlements in Saudi Arabia Madinah, Jazan, Hail, and Rabigh were compared. Using a set of indicators it was stated how each settlement compared when measured against an average on a series of indicators. The key challenges for implementing the new settlement in Saudi Arabia can be summarised as follows:

First, the financing of infrastructure projects and the impacts of the global financial and economic crisis. Secondly, issues associated with land ownership. Thirdly, the rising cost of construction materials. Fourthly, local companies have limited possibilities and cannot implement projects in a short time period.

The lessons learned from the experience of planning new settlements in Saudi Arabia can be summarised as follows: Strategic locations for the new settlements and a close relationship with their respective nearest cities gives an advantage to the whole country. New settlements have been developed with input from the local private sector. There are some negatives that have been experienced. There are no public transport networks as they are still under construction. There has been no community involvement so far in the planning process or the development of the new settlements. Local companies do not have previous experience in the development of new settlements. Next chapter will compere the tow case study England and Saudi Arabia.

CHAPTER 7

Discussion of empirical study results

7.1 Introduction

This chapter discusses the two empirical case studies of England and the Kingdom of Saudi Arabia. The analysis of the case studies provides detailed examples whereby it is possible to comment on how different types of new human settlement have been implemented in the planning processes used in both countries. In both cases, the review is presented with reference to new human settlement policies, documents, master plans and interviews, contextualised within the wider parameters of this thesis by the literature hitherto reviewed.

This chapter is divided into nine sections. Having outlined the purpose of the chapter, the second section discusses new human settlements from the standpoint of a local context. Thereafter, the concept of new human settlements is discussed with reference to how they are perceived by those who were interviewed within the wider research process undertaken for this thesis. The third section outlines the mechanism of how ideas travel in term of new human settlements. The next section considers how the concept of new human settlements has travelled in practice. The fifth section outlines the principle of new human settlements in practice. Subsequently, the chapter examines key factors evident in new human settlements. Section seven discusses the challenges of implementing new human settlements, whilst section eight reflects critically on the learning points and good practices that may be identified from England's case studies (as noted and explored within the thesis). Finally, a conclusion is proffered.

7.2 Local and national context

In terms of national and local context, there is a number of notable similarities between the two case study nations, England and the Kingdom of Saudi Arabia. Indeed, this is a pivotal reason as to why the two nations were chosen by the researcher; for instance, in both there is a need to build more housing units and increase the present level of job opportunities.

- Both case study nations have established a programme for implementing new settlements as tool to meet both societal housing needs and job opportunities.
- Both countries have revaluation policies in term of implementing their respective new settlement programmes.

There are also, however, nuanced differences between England and the Kingdom of Saudi Arabia, especially when viewed through a perspective based on local criteria.

In terms of local community, there are, within England, groups of people who do not believe in new human settlements and these people work hard to show their opinion to local and central government. These people often do so because they wish to stop the building of new settlements in the areas in which they, themselves, reside. The reasons for such obstinacy against the forces of progression represented by the new human settlement programmes include:

- They believe that new human settlements will have a negative impact on the existing community. This is often because the proposed developments are to be built upon green areas, which means that residents are losing part of the green areas that they are

used to using for recreational and sporting purposes to the built environment. Others look upon the new residents as a problem because their existence will lead to increased traffic and congestion. Some people do not want to be affected by construction operations inherent within the building of new human settlements.

- Secondly, existing settlements in England where opposition is strong have a good infrastructure, and a good building environment. Accordingly, there is no perceived need for more infrastructure, and there is a belief that adding more houses will cause strain on existing facilities.

On the other hand, in the Kingdom Saudi Arabia, the local community has no power in terms of making or even influencing decisions. The majority of interviewees from the Saudi case study felt that citizens believe in new settlements for three primary reasons:

- Past experience (as shown through the new town developments of the 1980s) suggests that creating new large settlements enables the standard of living for people in the Kingdom of Saudi Arabia will rise, and the new employment opportunities available through development will provide a high income for citizens within a good building environment.
- The second reason is that many cities have become overcrowded, with a concomitant low quality of living. New human settlements offer a chance to get away from the pollution and traffic jams of existing cities. This chimes with the principles of the Garden City Movement.

- The third reason is that new settlements will have a positive impact on existing communities that live close to new settlements because they will be able to take advantage of new shops, workplaces, and other community facilities. When planning for new settlements in the vicinity of existing residential communities, whether the existing settlement lacks particular services is taken into consideration, as the old and new areas will both benefit from improved development of the area. This provides an opportunity for people to be satisfied, whether they remain in the existing settlement or are moving to the new settlement, and can avoid the duplication of services and facilities.
- Successful past experiences in constructing new human settlements has led to more support for building further new human settlements in Saudi Arabia, as the respondents in the case study observed.

In terms of economic arguments, the case for building further new human settlements in England focuses on the ability of such developments to create more jobs by supporting local and small businesses. New settlements in England are intended to allow local people to establish their own businesses, with an expectation of suffering less impact from the changing needs of a mega or global company. Big companies, such as Nissan or Rolls Royce, do not move to the new settlements because they prefer to stay in established cities, where transport links and the employment pool are more secure. The spectrum of new settlements is increasingly aimed at small businesses that are looking for modern operating facilities that are well

equipped, with a dynamic local workforce and low office-warehouse rents and costs.

In contrast, the Kingdom of Saudi Arabia is still a developing country. Here, therefore, new settlements are used to attract international and global companies to locate within the Kingdom. This is important because it will help to widen the country's economic base so that it becomes less dependent on oil export income and, instead, diversifies and prospers through sustainable development of knowledge economies, tourism and financial services; all of which are economic areas in which England excels. Targeting international companies to come to these cities and provide incentives for them to do so may also help to stimulate job opportunities in other sectors for the indigenous local communities.

In terms of environment, new settlements in England are designed to respect the environment as they aim to achieve low carbon emissions. These new human settlements are founded on a more sustainable ecological basis than new settlements in the Kingdom of Saudi Arabia. England has used different methods to minimise the negative impact of new human settlements on the environment, such as strategic impact assessments and environmental impact assessments. However, the Kingdom of Saudi Arabia aims to reduce the impact on the environment but it is not considered necessary to achieve zero carbon settlements. The Kingdom of Saudi Arabia has instituted environmental impact assessments in new human settlements but strategic impact assessments have not yet been introduced in Saudi Arabia.

7.3 New human settlements as understood by the respondents

This section discusses the empirical evidence concerning the epistemological assumptions about how new settlements have been defined and deployed at a local level.

- The empirical case studies provide evidence that shows different levels of understanding about new human settlements.
- The interviewees' perceptions of a new human settlement are affected by the local and international context as well as their own knowledge, degree of involvement and their background.

The findings suggest that there are strong grounds for arguing that new human settlements should be defined locally. Despite these observations and findings, some comments from participants in the case study interviews undertaken for the research point to some commonalities in the definition of new human settlements.

- Most participants thus saw the new human settlement as a concept that could be used to create new communities that offered new housing and jobs for current and future generations without negatively impacting on the environment.
    - It is a place to live, work and undertake recreational activities with less impact on the environment.
    - It is a place where social activity includes work, housing and entertainment to accommodate today's children and future generations.
- In England, the case study participants were views about new settlements, which can be summarised as two primary points.

- ‘New settlements are built to meet the future needs of the population’(Durrant, interview, 2013).
- ‘New settlements are built to offer discounted prices for housing and the ownership and possession of all of the services and the basics of living’(Home, interview, 2013).

- In the Kingdom of Saudi Arabia, the participants had quite different views about new settlements, which can be summarised as two primary points.
  - ‘The first view describes new settlements as city that supports the local economic in’. (Naife, interview, 2014).
  - ‘The second view describes a new settlement as a city that improves the social-economy by using resources effectively’(Alharthei, interview , 2014).
- The Kingdom of Saudi Arabia case study shows that:
  - New settlements are used to reduce various kinds of development pressure on existing settlements (for example, environmental, housing, transport, and economic pressures), as well as a means by which to distribute population among/across provinces, regions, and the nation as a whole.
  - New human settlements support the national economy and provide job opportunities for the current society and future generations.
  - The settlements help to create integrated and economically, socially, ethnically, and internationally mixed communities.

They also help to attract international investment and link the country economically with global trade.

- However, in England, the case studies of the new human settlements were used in different way. They are used to:
    - Create new communities within which there are clearly controlled limits to the growth of the new settlement.
    - Support local economic sites and provide job opportunities for both current society and future generations.
    - Create integrated and economically, socially, ethnically, internationally mixed communities.
    - Provide affordable housing to a greater number of people.

A comparison of the different new human settlements

To compare the new human settlements in England and Saudi Arabia, a set of indicators was used. The first set of indicators focus on the area, size and density of the populations/communities. The second section compares land use. The first section included four key indicators. The second used five indicators for comparison:

- Open spaces
- Residential areas
- Employment areas, including usage of commercial and office accommodation
- Community facilities
- Road linkages

First indicator: Housing units

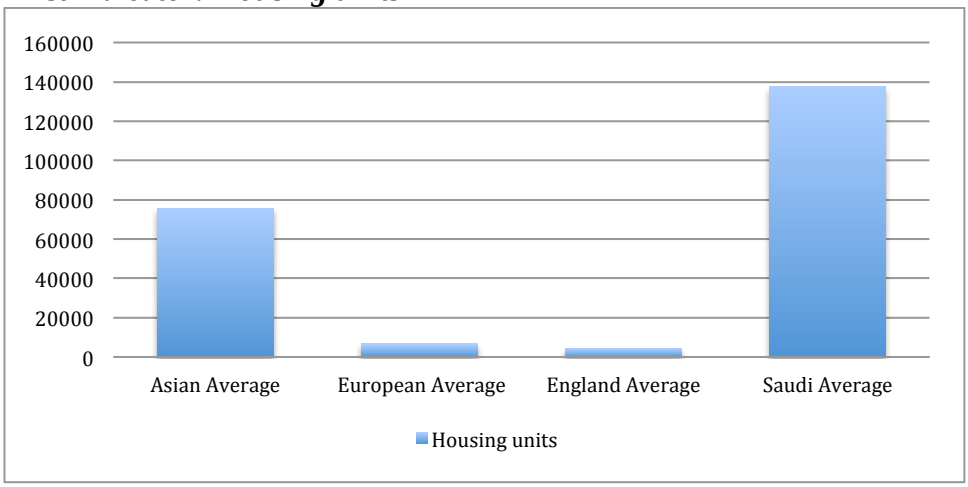

Figure 7.1 Housing units as a key indicator for comparing new human settlements.

Second indicator: Land size

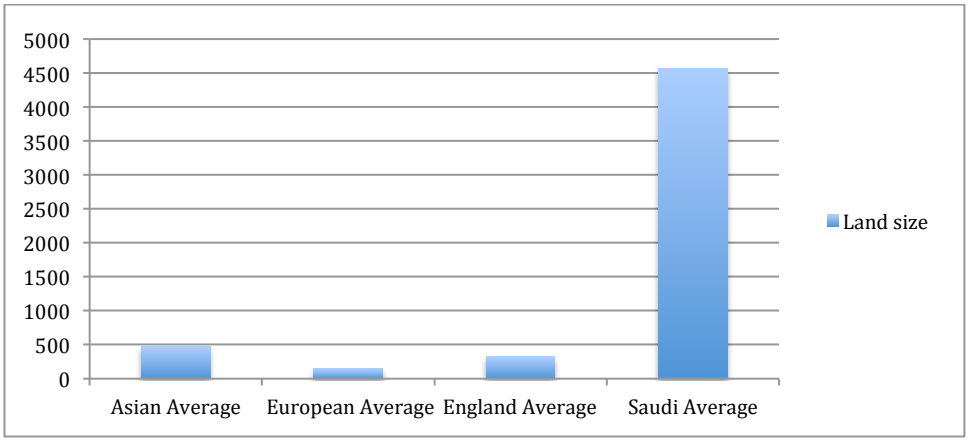

Figure 7.2 Land size as a key indicator for comparison between new human settlements by average.

Third indicator: Density

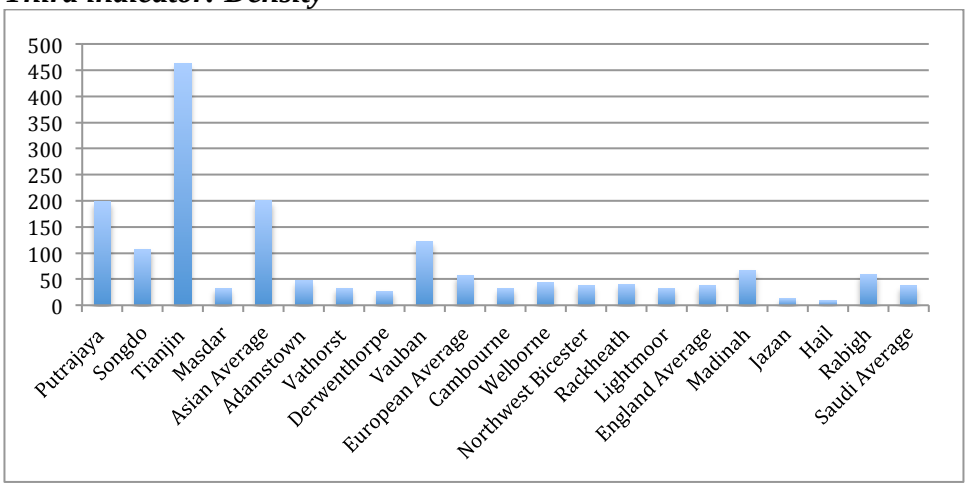

Figure 7.3 Density as a key indicator for comparison of new human settlements.

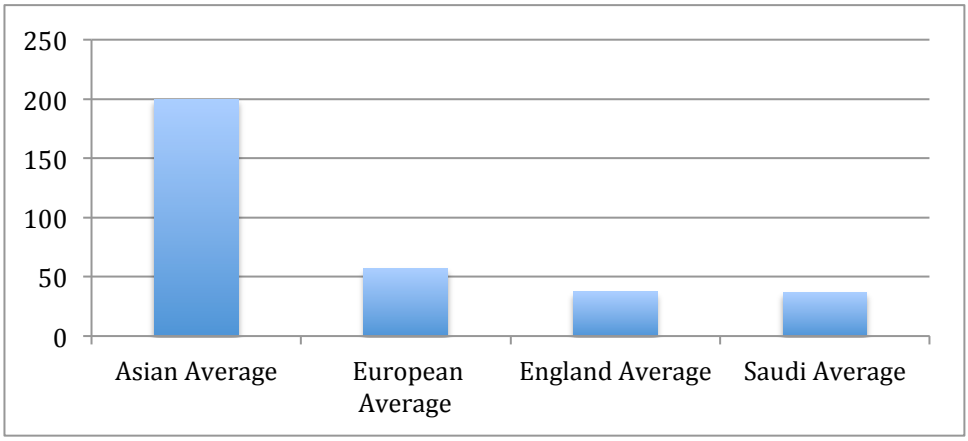

Figure 7.4: Density as a key comparison indicator between new human settlements by average.

Fourth indicator: Distance

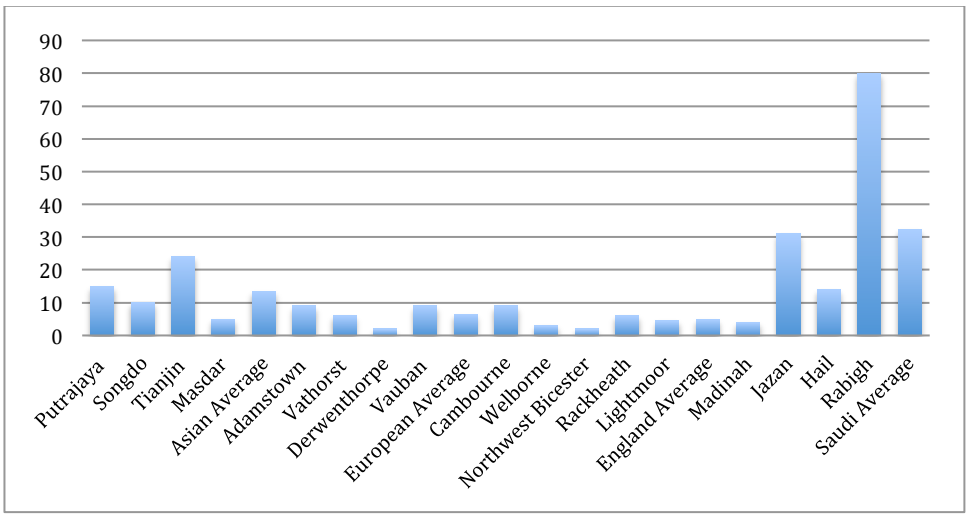

Figure 7.5: Distance from nearest city as a key comparison indicator between new human settlements.

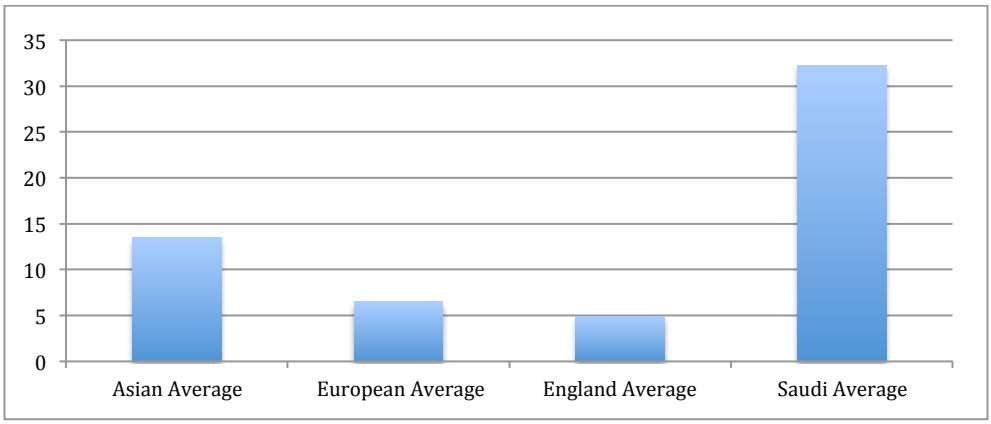

Figure 7.6: Distance from nearest city as a key comparison indicator between new human settlements by average.

Land use comparisons

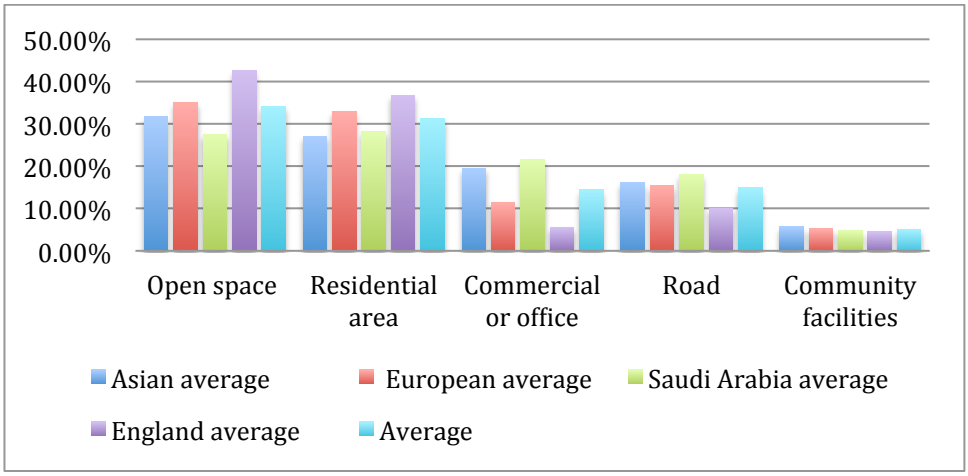

Figure 7.7: Land usage as a key comparison indicator between different new human settlements

First indicator: Open space:

The priority in England is for attractive homes that are in harmony with their surrounding environment. In new settlements, parks and green spaces that are placed close to homes should mirror the beauty of the British countryside. The green belt is used to separate new settlements and to limit the growth of each settlement. Land allocated for open space in new human settlements in England is about 42 per cent, which is above the average for new human settlements examples in Europe (35 per cent). In contrast, land allocated for open space in new human settlements in Saudi Arabia is about 27 per cent, which is below the average for new such settlements in Asia (31 per cent). In Saudi Arabia, homes in new settlements are designed in an attractive manner that acknowledges both local heritage and modernity. However, because of water scarcity, there are fewer gardens.

Second indicator: Residential areas

Land allocated for residential use in new human settlements in England is about 36 per cent. This is above the average for new human settlements in

Europe (33 per cent). In contrast, land allocated for residential use within new human settlements in Saudi Arabia is about 27 per cent, which is below the average for new human settlements examples in Asia (28 per cent).

Third indicator: Commercial and office space

In terms of providing a wide range of local jobs, with regard to the two case studies of England and the Kingdom of Saudi Arabia it is noted that both provide commercial areas next to residential areas. New settlements in England face a significant challenge in attracting new jobs, for a variety of reasons. The focus tends to be on attracting local companies, and land allocated for employment sites in new human settlements in England is about 5.6 per cent. This is a figure which is below the average for new human settlements in Europe (11 per cent). In contrast, land allocated for employment sites within new human settlements in Saudi Arabia is about 21.5 per cent, which is above the average for new human settlements in Asia (19.4 per cent). This is important for Saudi Arabia because it seeks to attract global companies in a prospective business environment which does not rely only on oil. To attract such companies, Saudi Arabia has created new cities and also offers concessions and tax exemptions to foreign companies.

Fourth indicator: Roads and transportation

England has a public transport system linking cities and provinces. New settlements are sited to take advantage of public transport networks, but there is a need to build new train stations. In new human settlements in England, the land allocated for the construction of roads and public transport is about 10 per cent; this is below the average for new human

settlements in Europe (about 15 per cent). In contrast, Saudi Arabia does not have an integrated transport system. A rail network is under construction and new settlements have been built to connect to the rail system. The new human settlements in Saudi Arabia have to integrate the location of new train stations with the proposed new train network. Land allocated for the construction of roads and public transport is about 18 per cent. This is above the average for new human settlements examples in Asia, which is 16 per cent.

Fifth indicator: Community facilities

Land allocated for community facilities in new human settlements in England is about 4.5 per cent. Within Europe as a whole, the figure is 5.3 per cent, so England is below average. In contrast, the amount of land allocated for community facilities in new human settlements in Saudi Arabia is about 4.8 per cent. This is above the average for new human settlements in Asia (5.7 per cent). In terms of creating sustainable communities, both case studies show that the extent to which this is realised is dependent on providing a range of facilities. This is a challenge, especially in the early stages of developments.

The new human settlement principles can be summarised as follows:

New settlement principles in England	No. of Respondents	No. of Reference
Strong vision and strategy:	6	3
Mixed land use located near transit nodes and other transportation facilities.	8	5
Master plans need to set limits to growth for the new settlements.	7	3
Balance of jobs and residents	4	3
The long-term stewardship of assets	3	3
Policy and land use strategies	4	2
Integrated and accessible transport systems	4	2
Support ecologically sounds economic.	4	2
Strong local cultural, recreational and shopping facilities	5	2
Mixed-tenure homes and housing types	5	3
A strategic approach is needed in planning to be well connected by public transport.	2	1

Figure 7.8: New settlement principles in England

New settlement principles in Saudi Arabia	No. of Respondents	No. of Reference
Strong vision and strategy:	5	3
Mixed land use located near transit nodes and other transportation facilities.	9	5
Master plans need to set limits to growth for the new settlements.	4	2
Balance of jobs and residents	8	3
The long-term stewardship of assets	7	1
Policy and land use strategies	5	2
Integrated and accessible transport systems	4	3
Support ecologically sounds economic.	2	2
Strong local cultural, recreational and shopping facilities	4	2
Mixed-tenure homes and housing types	4	2
A strategic approach is needed in planning to be well connected by public transport.	4	2

Figure 7.9: New settlement principles in Saudi Arabia

In terms of selected lands, undeveloped low price, through the development process to benefit the developer through the rise in the value of the land after development. These profits are used in the development of the new settlement and re-invested in it. In the practical application of the idea in both case studies, it has been shown that, in England, agricultural land is used for new human settlements. The respondents in the interviews believe that the need for more housing is greater than the need for agricultural land within local city boundaries. However, in the case of Saudi Arabia, there are strict laws to prevent the conversion of land use from agricultural land to mixed use. Most of the interviews pointed to a lack of agricultural land in Saudi Arabia, which means that it must be preserved. In contrast, in England, there is a far greater percentage of land that is acceptable for agricultural use, and therefore the loss of this land is less impactful than in Saudi Arabia. The interviews indicated that land in Saudi Arabia that is undeveloped with low land value is usually selected for the construction of new settlements.

In terms of strengthening the vision of new human settlements, the two empirical studies show that there are different ways to implement new settlements in practice. In England, at a national level, there is a vision for new settlements but this has changed over time, as national governments have changed from Labour to a Conservative/Liberal Democrat Coalition to a Conservative administration. Thus, the vision in 2008 under Labour was to build eco towns that have the criteria, characteristics and specifications for new human settlements. The administration promoted building new settlements of a small size of about 5,000 persons. These were distributed in

a lot of areas and planning for new settlements was undertaken within the framework of the extant planning system.

In terms of the implementation of processes, the interviews in both case studies show that planning for new settlements is a long-term process. In England, Section 106 agreements which grantee found for future development that related to social facility. In England, it is evident that new settlements need between ten to fifteen years to completed their anticipated growth, whilst, on the other hand, planning for new settlements in Saudi Arabia are for a longer period of about 25 years.

However, the central decision-making process in Saudi Arabia that leads to the implementation process takes a short time (of approximately one year) when compared with England, where the implementation process takes far more time as a result of planning and localism initiatives.

In terms of mixed tenure, the respondents in both of the case studies in England and the Kingdom of Saudi Arabia revealed that mixed-tenure homes and housing types in all of the new settlements are important in attracting a range of different people, with regard to income, culture, employment, and so on, in order to have an integrated community.

- Mixed-tenure houses include different occupation types. On the other hand, England has more stringent requirements as 30 per cent of all housing units should be affordable. In the Kingdom of Saudi Arabia there are no minimum requirements for affordable houses.

- Furthermore the company how develop the new settlement focused

on sale house so no ret house available yet and the price of housing unit in new settlements are not low enough it is being equal to houses price in existing settlement.

With reference to technology; both case studies show that new settlements are planned to incorporate high quality technologies such as the internet.

The English case study shows that the new settlements use technology in such a way as to reduce demand for electricity within houses. England has an agreement that can should be followed. The Kingdom of Saudi Arabia case study showed that new settlements also use technology to reduce demand for electricity. However, it should be remembered that Saudi Arabia is located in a hot climate and it is generally sunnier than England.

In terms of zero-carbon and energy-positive technology, it is clear that the British government has a great interest in saving energy and reducing carbon emissions. Modern heating techniques such as sunroofs and geothermal central heating have been introduced throughout England. In Saudi Arabia, however, there is less interest in energy saving and pollution reduction through technology, because of the high costs involved in importing advanced technology techniques from abroad and because the country is a major oil producer.

The ways in which facilities are made available in workable, vibrant, and sociable neighbourhoods are also different in the case studies. In England, new settlements have centres that include commercial premises, offices and schools. In Saudi Arabia, neighbourhood residential units are used as a tool

to achieve sustainability goals and thus gardens, shops and facilities.

This thesis demonstrates that, in practice, new human settlements are generally intended to be built on a human scale, to incorporate mixed land uses, and offer a range of different facilities within walking distance. These characteristics are frequently combined, with a desire to reduce car use, encouraging people to walk, cycle, or use public transport. Though citizens may choose to make other choices about residential location and mobility, it has been seen to be important to give them such options as part of the development of new settlements. Reflecting this, another common goal of new settlement development is the provision of integrated and accessible transport systems.

The policy frameworks and plans of new human settlements often claim that they are planned and design to meet residents' needs and preferences. In some cases there is also an aspiration to achieve self-sufficient settlements and that such settlements should also be separated by a green belt. Within their own boundaries, new human settlements are seen as needing to offer a mix of housing types that reflect both current and future demographics, as well as market trends, so that they may be attractive to different groups in society, such as families with children, older people, and people with disabilities (mental health and physical), as well as single people, students, and families with pets.

New human settlements are also justified on the grounds that they will have a more neutral effect on the environment. It follows that the settlements are frequently designed to include extensive green or blue infrastructures and

include tracts of open space in which residents can enjoy a range of outdoor activities, such as cycling or playing soccer. New technologies also play a major role in the conceptualisation and implementation of new human settlements. This is especially true with regard to reducing the demand for energy.

New settlements need teamwork between a range of actors and stakeholders if such areas are to develop fruitful new communities. In England, teamwork has delivered good results in new settlements. The case study shows that all of the master plans created by local companies clearly understand local issues. However, in the Saudi Arabian case study, international companies created the master plans. The reasons given for this in interviews were that there was a lack of experience within Saudi Arabia, and that the new settlements needed to be planned according to international standards.

7.4 The mechanism by which ideas "travel" with regard to new settlements

The interviewees believed that some ideas have been transferred by government-to-government partnership and that this can play a positive role in the development of new human settlements. The UK-China Eco-cities & Green Building Group which was launched in March 2010 is an example of a working partnership. The Sino-Singapore Tianjin Eco-city is the result of a collaborative agreement between the governments of China and Singapore. The Kingdom of Saudi Arabia has some relationships with Malaysia, particularly with regard to investment in Jazan economic city.

Educational and scientific institutions

The Eco-Cities MSc was established as a master's level programme at Cardiff University and has identified key mechanisms relating to how the eco-city movement can be transported between different countries. Dr Li Yu sees his mission as

> trying to tell the students different perspective of eco-city, including the information about the garden city, always garden city. That's kind of, in fact it offers some of the concept of eco-city have been adopt, the garden city, or some other development discipline. Eco-city kind of terms, it can be changed. It can become a green city, it can be changed for next couple of years, to have new terms. But what I'm emphasise, in this course, is that no matter what kind of terms are used, is kind of, we have to change the formal approach of development and planning (interview, 2014).

Lecture tours and international conferences

New settlements in general have travelled as an idea through the actions of groups such as the Town and Country Planning Association and International Federation for Housing and Planning. Both play a key role in promoting the advantages of new human settlements. International conferences are also key ways for new ideas to travel. These include events such as the Eco-city World Summit, held annually, with cities such as Nantes and Adelaide hosting it.

International development agencies and consultancies

This key mechanism is really active in developing countries. The United Nations and World Bank also play a role in helping ideas to travel. In developing new settlements in the Kingdom of Saudi Arabia, it has been argued that the master plan used was developed by international consultancies.

Key mechanisms that make planning ideas travel Interviews from England	No. of Respondents	No. of Reference
Government-to-government partnership or relationship	4	2
Educational and scientific institutions	2	3
Lecture tours and international conferences	3	3
Professional associations and journals	3	2
International development agencies and consultancies	2	1

Key mechanisms that make planning idea travel Saudi interviews	**No. of Respondents**	**No. of Reference**
Government-to-government partnership or relationship	3	2
Educational and scientific institutions	2	2
Lecture tours and international conferences	5	2
Professional associations and journals	2	2
International development agencies and consultancies	6	2

Figure 7.10 Key mechanisms that help planning ideas to travel

7.5Planning processes for new human settlements in England

At the national level, new human settlements are implemented through local planning systems, and supported by national planning policies. The National Planning Policy Framework, published in March 2012, set out the national planning policy for England. Paragraph 52 recognises the principles of the garden city as useful in guiding large-scale development.

- The Localism Act 2011 provides a framework that guides the relationship between local governments and other bodies as they deal with sustainable development and land use matters, and sets out the responsibilities of all local authorities in the preparation of local plans.

- Under the Localism Act 2011, local authorities are responsible for preparing a local plan, which provides a decision-making framework in relation to development within the urban boundary and in any rural areas within the territory of a local authority.
- A decision to expand an existing settlement, or to create one, must emerge from a local planning process with input from the local planning authority and relevant local communities.
- Local communities and businesses are now empowered to produce plans for sub-areas of a local authority's territory, known as neighbourhood plans.

- There is no strategic plan at A national level to implement new human settlements in England. Local authorities can use sub-regional planning, but this is optional and they are not required by law to address sub-regional planning policies.
- England now has the New Towns Act 2015. This identifies the issues that face government in terms of the delivery of new communities. It shows how local authorities can use some of the policies of the New Towns Act, such as compulsory purchase and Section 106 Legal Agreements.

- Local authorities and communities have been supported by the Town and Country Planning Association, which has published several documents describing good practice. It has also organised several conferences and workshops relating to new settlements.

- At the local level in England, local authorities are required to demonstrate how they will provide enough land in their development plans to meet the local housing needs. If they decide to build a new settlement they need to address this in their core strategy planning policy. They may launch a call for the right to search for land. The next stage is to develop a local action plan, which describes how a new settlement could be developed. The local authorities have to carry out public consultations for both the core strategy planning policy and the local action plan. A new settlement master plan must be submitted through the planning application process.

7.6 The challenges of implementing new human settlements

New human settlements face several challenges in England. They may be summarised thus:

Main challenges in the implementation of the new settlement concept in England	No. of Respondents	No. of Reference
Planning policy challenges	4	2
- Strategic planning	2	1
- Regional strategy	2	1
Economic challenges:	5	2
- Finance	3	1
- Local authorities budgets	4	1
- Planning and officer staff as cut	2	1
- Real estate market	2	0
Land ownership challenges:	5	3
- The availability of land	3	3
- Multiple-ownership	3	2
- Compulsory purchase	3	2

Figure 7.11 Main challenges in the implementation of the new settlement concept in England

It is a challenge to plan for new human settlements in England because of the lack of strategic planning for new settlements in England at a national level. In addition, the 2010-2015 Coalition government abolished regional

planning. In addition, local communities are often against developments. The present economic climate also creates problems as austerity measures have often led to planning staff being made redundant. The economic downturn has also reduced demand for office and commercial space in employment areas. The ready availability of land and land ownership issues also cause difficulties. A second hurdle is that some sites are in multiple-ownership, which may increase the time needed for land acquisition and assembly. Though compulsory purchase is available as an option, the process may not be easy or quick, delaying the development process. It is also difficult to obtain the necessary funding for up-front investment in infrastructure, roads, and community facilities.

The learning points and good practice gathered from England's experience can be summarised as follows:

Learning points and good practice from England	No. of Respondents	No. of Reference
A change in policy	3	2
- The eco-town standard to broader garden city principles	3	2
- Power has been shared between different levels of government authority and the local community.	4	2
- Meet the needs and aspirations of local residents	2	2
- Sub-regional planning	1	1
- Policy New Towns Act	1	1
Associations and lobbies	3	2
Strategic locations and settlement boundaries	4	4
Density	1	1
Public consultation	6	5
Different types of financial support.	2	2
The relationship between existing settlements and new settlements	2	2
Government funding to support new settlement development is given to local government and the private sector	2	2

Figure 7.12 Learning points and good practice from England

A change in policy has occurred regarding the direction of new human settlement developments. There has been a shift from the pursuit of the eco-town standard to broader garden city principles. In addition, new human settlements have been identified and supported in national planning policy in the National Planning Policy Framework, whilst power has been shared between different levels of government. That has led to decision-making that is more in line with the needs and aspirations of local residents. This was already a feature of the English approach to planning, but has been promoted even more since the passing of the Localism Act 2011. Sub-regional planning has also been used in some cases. This has led to a more strategic view of planning for new settlements.

Associations and lobbies have also played a role in developing and promoting the idea of new human settlements. At the same time, the Town and Country Planning Association in particular has engaged with local authorities to share ideas and information. It is also pleasing to note that there has been attention given to the definition and maintenance of new settlement boundaries, taking into account features such as roads and green belts. These have been used to control settlement growth. The density of new settlements has also been increased. This is considered to be a way of making new settlements more viable. Experience shows that public consultation at different stages in the development of new settlements has also led to them gaining more support from the existing community near which they will be sited. It makes the community more receptive and supportive of this type of project.

Integration of new settlements with existing settlements is an important issue. Experience shows there is value in having an action plan for a new settlement that describes the relationship between the new settlement and existing settlements and how they can both share in the benefits that arise as a consequence of the development.

7.7 The planning processes for new human settlements in Saudi Arabia

At a national level in Saudi Arabia, new human settlements have been introduced through a strategic National Plan, prepared by the Saudi Arabian General Investment Authority. The central government of Saudi Arabia decided to implement the new settlement concept without regard to the regular planning system. The main reason for this is that it was recognised as a special development that needed to avoid any negative effects of the existing planning system, which could result in delays because local authorities having power in controlling development. Furthermore, it was agreed that new human settlements should be developed to international standards, rather than following the requirements of local planning conditions only. The purpose of this is to gain sustainable development experience and pass on the lessons learned to the next generation (stage two of the new settlement plan). Since new settlements were established in 2005 as economic cities, their development has been led by the General Authority for Investment, whose main tasks can be summarised in four points:

1. To develop an action plan based on best practice of new settlement development.
2. To select a team that will prepare the plan and implement it.

3. To identify competitive industries that could be developed in each new settlement.
4. To select a strategic location for each new settlement.

The central government of Saudi Arabia decided to give more power to local authorities in relation to the implementation of new settlements; the main reason was that it was felt that, otherwise, it would be difficult to manage all four new settlements at the same time in terms of daily decision-making.

At a local level In Saudi Arabia, the responsibility for implementing new settlements was transferred to the newly established Economic Cities Authority, whose main tasks are: to review the action plans for new settlements; to deal with planning applications; to issue permits for all activities located within the new settlements; and to supervise and monitor business entrusted to the private sector. Saudi Arabia has nothing like the New Towns Act 2015 or the Town and Country Planning Association as yet.

7.8 The key challenges of implementing the new settlement concept in Saudi Arabia can be summarised as follows:

Main challenges in the implementation of the new settlement concept in Saudi Arabia	*No. of Respondents*	*No. of Reference*
Planning policy challenges	*2*	*1*
Economic	*5*	*3*
- *Finance*	*3*	*2*
- *government support*	*3*	*1*
- *Construction costs*	*2*	*1*
Social challenges	*4*	*3*
Spatial challenges	*3*	*2*

Planning policy challenges	*3*	*2*
Land ownership challenges	*4*	*2*
- *land availability*	*2*	*1*
- *land landlord*	*2*	*1*
- *past used of land*	*1*	*1*
Social challenges	*4*	*2*

Figure 7.13: Main challenges in the implementation of the new settlement concept in Saudi Arabia.

Planning policy challenges

The current planning system does not strongly support the building of new settlements for the piece was to prepare a plan independent addresses this imbalance has been dealing with the new settlements as areas of special development.

There is a range of economic challenges in getting the finance required to complete a new settlement, as Ali (interview, 2014) observes; 'Companies that develop projects faced difficulties in financing their projects, there are foreign companies and others offering a local you cannot complete some of the projects'. There is also a need for government support and funds for the development of new settlements, as 'the government wants the private sector to assume full responsibility for the development of this very difficult [area] especially as the project size is too big' (Ali, interview, 2014).

Planning to build a range of new settlements at one time is a big challenge 'The government cannot finance the six cities at the same time (Zahrani, interview, 2014). Rising construction costs are also a problem; 'the size of the cities and the need to develop them at one time effect on the demand for building materials' prices' (Zahrani, interview, 2014). Such problems are compounded by difficulties in attracting investment and attracting companies to new settlements; 'we need to consult with

international companies in order for us to provide what are needed in order to set up the factory or administrative headquarters in our cities' future' (Naife, interview, 2014).

Such problems as those hitherto noted are made even worse by challenges relating to the ownership of land and the associated issue of land availability:

> These lands to the State owned were sold at a low price for companies. But there are areas of land owned by the members do not want development'. A number of local governments are having difficulty in finding suitable sites for development - past uses of some of the land was a cemetery and was the Agricultural Land (Matlob, interview, 2014).

With regard to social challenges, there were no pre-existing communities in most cases, so the framework has not involved local communities in the planning process for new settlements. 'There is no law that obliges the community to participate in the project. Conversely, companies owned by the owners of the shares influence development decisions in the city' (Alharthei, interview, 2014).

Spatial challenges are difficulties faced by local governments relating to specific spatial circumstances and the sites available for development. For example, the development of settlements on certain available sites may have negative effects on the road network. These constraints may lead to the non-establishment of the planned new settlements.

Technology has been considered a challenge for Saudi Arabia. Technology has an impact on the cost of development. Despite 'try[ing] as much as possible to design buildings in a sustainable manner, alternative energy technologies are not available locally and import[ing them] from abroad is

too expensive' (Zahrani, interview, 2014). Human resource challenges, planning, designing and managing new settlements require special skills and experience.

As Abdul Marlob notes, 'after the construction of new cities by the 35-year we stopped construction of other new cities' (interview with author, 2014). 'Accumulated experience is also limited in this field because analysts and planners are rare in Saudi Arabia, so we suffer from a lack of planners and engineers, and local companies do not prefer the type of project that needs significant funding' (Alharthei, interview, 2014).

7.9 The learning points and good practice gathered from Saudi's experience can be summarised as follows:

Learning points and good practice from Saudi Arabia	No. of Respondents	No. of Reference
A change in policy	3	2
- National vision	3	2
- More power to local authority	2	1
- Meet the needs and aspirations of local residents	1	1
- Regional planning	1	1
Strategic locations and settlement boundaries	4	4
Density	2	2
Public and private partnership	3	3
Government financial support.	2	2
The relationship between existing settlements and new settlements	2	2
	2	2

Table 7.14 Learning points and good practice from Saudi Arabia

Saudi Arabia has a strategic National Plan for new settlement prepared by the Saudi Arabian General Investment Authority. The central government of Saudi Arabia decided to implement the new settlement concept without regard to the regular planning system. Later, the government transferred power from central government to local authorities through the Economic

Cities Authority to take responsibility for new settlements.

Strategic locations were selected for new settlements to enable fresh advantages to be enjoyed throughout the whole Kingdom. New settlements in Saudi Arabia are carrying a national vision that achieves many of the benefits at national, regional, and local levels. There is integration between planning for new settlements and planning for the development of transport and communications networks at a regional and national level to support the development of new settlements. All the necessary public transport networks, trains and buses are still under construction. Opportunities to improve the implementation process of developing the new settlements in Saudi Arabia are underway. This is evident by the fact that all the new settlements will, in the fullness of time, be linked to public transport.

There is clear cooperation and full coordination between the government and the private sector. All new settlements have a master plan, which covers a period of 30 years – so that their longer-term development needs can be realised.

To summarise the key finding:

- At National Level: It is required a national vision and strategy that describe how the countries planning to accommodated the new human settlement in future. It should be for long time planning witch do not stop and does not change when governments change. This vision and strategy also you must be flexible and able to interact with variables and future needs.

- At Regional or sup regional: It is required Regional or sup regional vision and strategy that describe how the sup regional can accommodate the new human settlement in future. It should be shows the most appropriate sites for development and evaluation of alternatives to choose a new settlement site.
- Local Level: It is required core strategy and Action that describe how local authority can accommodate the new human settlement in future. It should be shows the most appropriate sites for development and evaluation of alternatives to choose a new settlement site.
- The government funding to support new settlement development is given to local government and the private sector. This will provide greater certainty to help the private sector to feel confident about making decisions to invest in new settlements. Without this the research suggests that new settlements may appear as an unattractive and risky investment prospect for the private developer.
- Public consultation should be undertaken at different levels of new settlement development. It should be involved in the implementation process.
- Established and support non-provide organisation that has knowledge and expertise of new settlement development be established and involve in planning for new human settlement. This might be an independent organisation, such as the Town and Country Planning Association, which can help new settlement development by publishing guidelines, organising conferences,

helping to improve local skills and sharing lessons learned. It is furthermore suggested that such a body could work in partnership with bodies such as the Town and Country Planning Association in England, or other international organizations.

- Policy New Settlement Act be adopted, which could be used in implementing new settlements and setting the parameters for agreements between local authorities and developers. A New Settlement Act could be used to support the provision of services and infrastructure, such as highways, recreational facilities, education, health and affordable housing.
- Master plans for new settlements should be flexible enough to adapt to future needs, as such plans generally have a 20-year time span. Furthermore, master plans need to set limits to growth for new settlements.
- The development of new settlement plan should take taking into account the relationship between new and existing settlements. To take advantage of the movement of people from existing settlements to new settlements, by regenerating those existing settlements. The relationship between existing settlements and new settlements has been missed in the translation of ideas about new settlements in some countries.

7.9 Conclusions

In the following chapter, the gist of the findings found in each of the objectives will be briefly presented for the fulfillment of the research objectives.

CHAPTER 8

Conclusion

8.1 Introduction

This chapter presents a series of conclusions based on the primary and secondary research undertaken for this thesis. The research aims and objectives are presented in the first section. Thereafter, a summary of the research methodologies is presented, along with the key findings of the research in relation to how they address the research aims and objectives. The last section presents the limitations of this study and gives a range of suggestions for future research that build on the contribution to academic knowledge that this thesis has delivered.

8.2 Research aims and objectives

Informed by the contexts and concepts described in preceding sections, the overarching aims of this research are:

To analyse the concept of the new human settlement and establish a framework that can be used for the implementation of the new human settlement concept.

These aims are supported by two broad research objectives and five sub-objectives:

A. To develop a better understanding of the concept of new human settlements by identifying the core and contextual principles for the

new human settlement concept and identifying different types of new human settlements.

B. To consider how the idea of new human settlements adapts as it is transported from one country to another; to analyse selected examples of new settlement developments in England to establish the main changes that happen to the new human settlement concept when the theory is ‘shipped’ from one context to another; to focus in particular on a comparison of current conceptions of new human settlements as they apply to England and Saudi Arabia.

The five sub-objectives that have been addressed within this thesis are:

1. An examination of how local authorities can implement the new human settlement concept locally by analysing the implementation process in England.

2. An exploration of the challenges of implementing the new human settlement concept in different contexts by analysing the implementation processes in Saudi Arabia.

3. An identification of the experiences and lessons gained by local authorities in England that can be used as guidance in Saudi Arabia, by summarising learning points and good, or less successful, practices that may be identified from England’s experience.

4. The presentation of a series of research-based recommendations that can be used as guidelines for implementing the new settlement concept at the local level in Saudi Arabia. These recommendations

will be useful for local government and the private sector in terms of implementation processes.

5. A critical review of the data and conclusions of the research on the interpretation and implementation of the new human settlement concept in different places as an example of how planning concepts can experience a ‘shift’ of meaning, whereby they can be successfully adopted and used in places that have different social, environmental and economic conditions from those where the concept originated.

8.3 Research methodology

As this is exploratory research, a qualitative method has been applied in this study. The qualitative approach is used because the enquirer is seeking to make knowledge claims based primarily on constructivist perspectives on the multiple meanings of individual experiences. The research applies three ontological, epistemological and methodological assumptions:

1. ***Ontological assumption:*** The perception of the new human settlement will be moulded by the experiences and interpretations of the practitioners and participants involved in the planning of such settlements.
2. ***Epistemological assumption:*** An understanding how the new human settlement is deployed at a local level will emerge from interactions between the researcher and the practitioners and will inform a framework that can be used as guideline for the implementation of new human settlements.

3. ***Methodological assumption***: Various perceptions will emerge from interactions between the researcher and practitioners, primarily through the use of interviews as a method to discuss the challenges of applying the concept of new human settlements.

A general strategy of qualitative research has been applied in the case study. This was pursued through the use of qualitative research methods, including open-ended questions, interview data, observation data, documentary data, audio-visual data, and textual and image analysis.

Four methods were used to collect the data. These include the observation and analysis of texts, documents, interviews, records and transcriptions (Silverman, 2001). This research has used a literature review and analysis of the data collected from the case studies to develop a framework that can be used as a guideline for creating new human settlements. Research validity strategies were selected from theories proposed by Maxwell (2013) and Creswell (2003), in order to minimise the threat to the validity of the thesis. These included triangulation, rich data, quasi-statistics, comparative analysis and the researcher's personal experience.

A number of case studies of new settlements in the two chosen countries of England and Saudi Arabia were conducted. Interviews comprised the main form of data gathering with regard to the settlements examined. This research selected case studies from England and the Kingdom of Saudi Arabia as descriptive case studies, according to the principles recommended by Yin (2003).

England was selected as case study because it is recognised as a country that plays a key role in the practice of new settlements and exports the concept to other countries. Since 2007, there have been various policies in England which have sought to promote different kinds of new settlements. These have most notably included eco towns under the Labour administration before 2010, and new garden cities under the new national planning policy of the 2010-2015 Coalition government.

The Kingdom of Saudi Arabia was selected as a case study for two principal reasons. First, it has past experience involving the construction of new human settlements. Secondly, since 2005, Saudi Arabia has had a twenty-year, long-term programme to develop a range of new settlements.

After the brief reminder of the research methodology above, the following section outlines the findings of the study in relation to the research objectives.

8.4 Overarching research objective A

This objective seeks to develop a better understanding of the concept of new human settlements by identifying the core and contextual principles (see Table 8.1) for the new human settlement concept and identifying the different types of new human settlements.

“New human settlements” is an umbrella concept that includes different types of new settlements that create new communities, such as new settlements, new villages, new towns and new cities. Although there are differences, including the size and density of the population, they share one goal: to build new communities.

Core Principle	*Contextual Principle*
Core Principle One: Strong vision, leadership and community engagement.	Contextual Principle A: Integrated and accessible transport systems.
Core Principle Two: Mixed land use located near transit nodes and other transportation facilities.	Contextual Principle B: Support ecologically sound economic activity while discouraging pollution, waste, and the use and production of hazardous materials.
Core Principle Three: master plans need to set limits to growth for the new settlements.	Contextual Principle C: Strong local cultural, recreational and shopping facilities in walkable neighbourhoods.
Core Principle Four: Balance of jobs and residents.	Contextual Principle D: New human settlements require the very best of professional expertise.
Core Principle Five: The long-term stewardship of assets.	Contextual Principle E: Mixed-tenure homes and housing types that are genuinely affordable for everyone.
Core Principle Six: Policy and land use strategies are deployed to limit real estate speculation.	Contextual Principle F: A strategic approach is needed to plan for new human settlements to be well connected by public transport.

Figure 8.1 Core and contextual principles of new human settlements

The research has identified different ways of classifying new settlements:

- First, new human settlements could be classified according to their main development aims.
- Secondly, new human settlements could be classified according to their size and development scale.
- Thirdly, new human settlement could be classified according to their location and relationship with the “existing settlement” or core settlement.

In the research, the first means of classification has been used to identify different types of new sustainable human settlement based on their main development aims. Using this approach, six new human settlement types were identified, as Figure 8.2 indicates.

Types of NHS	***Main development aims***	***Example***
Political human settlements	Developed to be new capitals or to be as federal administrative centre settlements	Putrajaya, new town in Malaysia
Ecological human settlements	Developed to meet a high standard of environmental performance	Tianjin eco-city in China, or Masdar in the United Arab Emirates
Enclave human settlements	Developed to offer a retreat from the existing city	Blue City in Oman
Economic human settlements	Developed to attract investment and support national economic growth	Rabigh in Kingdom of Saudi Arabia
High-tech human settlements	Developed to utilise technology as an attraction	New Songdo city in Korea
'Shelter' human settlements	Developed to meet housing need.	Bumi Serpong Damai in Indonesia; Lightmoor, in Telford, England

Figure 8.2 Different types of new sustainable human settlement based on their main development aims.

New human settlements can also be classified according to size and development scale into four types (Figure 8.3).

Types of NHS	***Size and development scale***	***Example***
New village	These are small settlements that are built to house a population of less than 2,000 people	Lightmoor, in Telford, England
New settlement	These are built with three or more new villages being set together to create a settlement with a population of around 5,000 people	Cambourne in England
New town	This is a medium-sized settlement that is built with a population of less than 200,000 people	Milton Keynes in England; Adamstown in Ireland
New city	This is a large settlement with population of more than 300,000 people	Dongtan in China and Rabigh in Saudi Arabia

Figure 8.3: Different types of new sustainable human settlement according to size and development scale

Thirdly, new human settlement can be classified according to location and relationship with the "mother", or core, settlement.

Types of NHS	***Location and relationship with the "mother", or core, settlement.***	***Example***
Standalone new settlements	New settlements are located far from the existing settlement. In such cases a new settlement will need to be large enough to accommodate a full range of facilities to meet the population's needs.	Rabigh in Kingdom of Saudi Arabia
Suburb	New settlements are set next to the existing city. These can be small in size, for example.	Eco Bicester in England; Madinah in Saudi Arabia

Figure 8.4: New human settlements can be classified according to location and relationship with the "mother", or core, settlement.

8.4 Overarching research objective B

This objective considers how the idea of new settlements circulates as it is transported from one country to another. The objective seeks to analyse selected examples of new settlement development to establish the main changes that happen to the new human settlement idea when the theory is "shipped" from one context to another. It focuses in particular on a comparison of current conceptions of new settlements and their application in England and the Kingdom of Saudi Arabia.

The research undertaken has shown that in the practice of implementing new human settlements a number of key ideas have been influential. The notion of the new settlements that was originally influential in England has "travelled" to various other parts of the world. However, as it has travelled, the concept has been modified, and not all its original aspects and components are used in every place where it "lands". Some of the principles have been kept, but there is also a selective borrowing process in which only certain parts of the concept have been used, based on the needs and criteria of the "importing" countries, as Figure 8.5 shows.

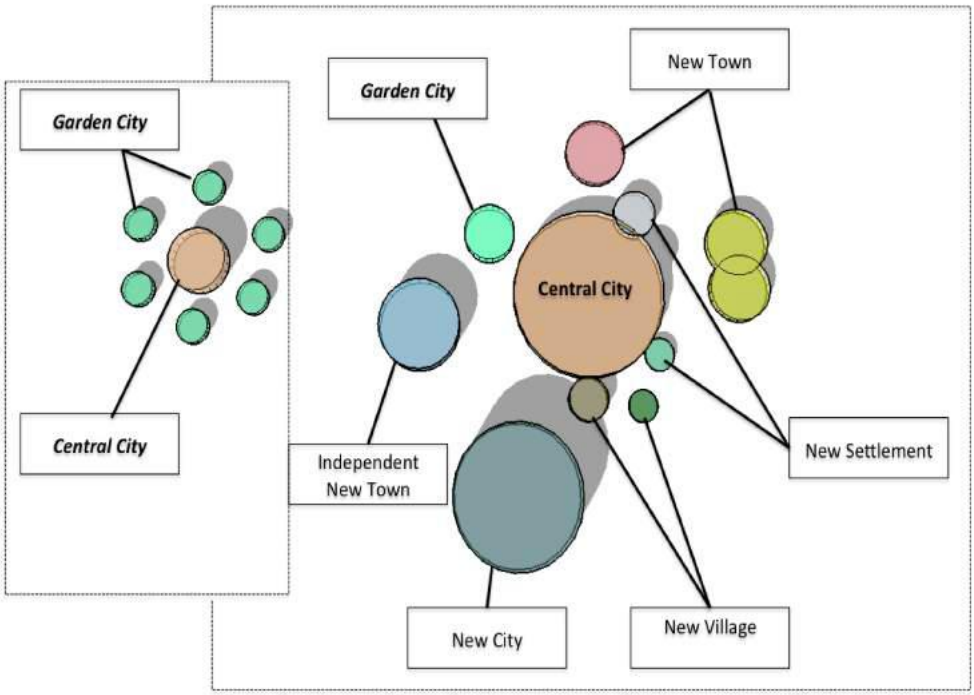

Figure 8.5 New human settlements types, adapting the Howard concept.

Where the notion of the new settlements has been influential in Asia, for example, the original concept has been modified, with new settlements being different in size and urban form from the original vision of the Howard's ideas. In Asia the new settlements being built often have far larger populations than the new settlements envisaged in England, with some having populations of over 300,000 inhabitants. The new settlements have been changed from urban to suburban (Parham, 2013). The concept of the new human settlement has, in effect, become more abstract and applied to describe many different types of new settlement (Parham, 2013). A key feature of the new settlements which has been absent from almost all of the attempts to implement the idea in practice, is the creation of autonomous and self-governing communities with the power to re-invest profits in the further development of the city and its facilities (Hall, 1988).

8.6 Sub-objective one: To examine how local authorities can implement the new human settlement concept locally.

The results of compered the implementation process between to case study England and Saudi Arabia can be summarises by three level as follows:

	England	***Saudi Arabia***
National level	New human settlements are implemented through the planning system and National Planning Policy Framework, published in March 2012. New Towns Act 2015, published in February 2014. This identified the issues that face government in terms of the delivery of new communities.	The central government of Saudi Arabia decided to implement the new settlement concept without regard to the regular planning system. A strategic National Plan prepared by the Saudi Arabian General Investment Authority has introduced new human settlements.
Regional level	The local authorities made sub-regional planning optional but are not required by law to address sub-regional planning policy	Regional planning is used for implementing new human settlements.
Local level	Local authorities must address this in the core strategy planning policy. Local authorities may launch a call for sites to search for land. The next stage is to develop a Local Action Plan, which describes how a new settlement could be developed. The local authorities have to hold a public consultation for both the core strategy planning policy and local action plan. Subsequently the local authorities work with developers to have a new settlement master plan ready to be submitted for planning application.	The local authorities must follow strategic planning policy for the prepared Action Plan. The local authorities work with consulates to develop a new settlement master plan.

Figure 8.6 How local authorities in England and Saudi Arabia can implement the new human settlement concept locally.

8.7 Sub-objective two: To explore the challenges of implementing the new settlement concept in different contexts.

The results of compered challenges of the implementation process between to case study England and Saudi Arabia can be summarises by these points :

Challenges theme	*England*	*Saudi Arabia*
Infrastructure and transport	Large number of small new settlements requires investment in infrastructure and transport necessitates up-front infrastructure investment.	Large settlements need to invest in infrastructure and transport necessitates up-front infrastructure investment in few sites.
Ownership land challenges.	Some local governments are having difficulty in finding suitable development sites. Though compulsory purchase is an option, the process may not be easy or quick, delaying the development process.	Some sites are in multiple-ownership and are the property of many landlords, which may increase the time needed for land acquisition and assembly.
Economic challenges	There is more pressure on local authority budgets. It is difficult to attract businesses to come to new human settlements.	Government support and funds needed for the development of new settlements. Rising construction costs as a result of higher demand for construction materials. Difficulties in attracting investment and attracting companies to new settlements.
Social challenges	Existing communities are often against development.	No existing communities in most cases. The existing framework has not involved local communities in the planning process for new settlements.
Human resource challenges	Substantial financial and staff cuts.	Planning, designing and managing new settlements require special skills and experience.
Spatial challenges	No strategic plan for new settlements in England at national, or regional, level. 2010-2015 Coalition Government abolished regional planning. Difficult for local authorities to plan for new settlements on a large scale. Change in direction from an eco town concept to the principle of garden cities has added difficulties.	Difficulties faced by local governments relating to specific spatial circumstances and the sites available for development. For example, the development of settlements on certain available sites may have negative effects on the road network. These constraints may lead to non-establishment of the planned new settlements.

Figure 8.7 Comparison of challenges in implementing the new settlement concept in England and Saudi Arabia.

8.7 Sub-objective three

This objective seeks to identify the experience and lessons gained by local authorities in England that can be used as guidance in Saudi Arabia, by summarising any learning points and good, or less successful, practices that may be identified from England's experience. Learning points and good practices that may be identified from the England's experience can be summarised as the following:

1) A change in policy occurred regarding the direction of new human settlement development, with a shift from the pursuit of the eco town standard to broader Garden City principles that were more relevant to the needs of practice. Another feature of the situation in England was that the new human settlement has been identified and supported in national planning policy in the National Planning Policy Framework.
2) Power has been shared between different levels of government authority and the local community. This has led to decision-making which seems in line with the needs and aspirations of the local residents. This was already a feature of the English approach to planning, but has been promoted even more since the Localism Act 2011.
3) Sub-regional planning was used in some cases. This led to a more strategic view of planning for new settlements.
4) Associations and lobbies have played a role in developing and promoting the idea of new human settlements. In England, the Town and Country Planning Association in particular has engaged with local authorities to share ideas and information, sometimes after the authorities sought its advice.

5) There has been attention to the definition and maintenance of new settlements' boundaries, taking into account features such as roads and green belts. These have been used to control the settlements' growth.
6) The density of new settlements has been increased and they have been made more compact. This is considered to be a way of making new settlements more viable.
7) Experience shows that public consultation at different stages in the development of new settlements has led to them gaining more support from the community.
8) Government financial support may be available provided certain criteria are met. Information on the support provided in the past can help to inform the local authority and developer how much support the project can get in the early stage of planning for a new settlement.
9) Integration of new settlements with existing settlements is an important issue to consider. The experience shows there is value in the action plan for a new settlement describing the relationship between the new settlement and existing settlements and how they can share the benefits of the development.

On the other hand, there are also some less successful aspects that can be found in the English experience.

1) The early model introduced in England during the 2000s for new settlements on the "eco town" model required specific standards that it seems proved difficult to apply in practice. It was difficult to apply one-size-fits-all sets of criteria in different locations.

2) There was no national plan or regional planning that could be used for developing new settlements. This led to more difficulties for local authorities that had to plan new settlements alone instead of larger scale new settlements being promoted and built between a number of local authorities at a regional scale.
3) Cuts in local authority staff have affected the implementation process of new settlements.

8.9 Sub-objective four: To prepare recommendations that can be used as guidelines for implementing the new settlement concept at the local level in Saudi Arabia.

Based on the findings, a number of recommendations have been developed:

1. It is recommended that a clear commitment of government funding to support new settlement development is given to local government and the private sector. This will provide greater certainty to help the private sector to feel confident about making decisions to invest in new settlements. Without this, the research suggests that new settlements may appear as an unattractive and risky investment prospect for the private sector.
2. It is recommended that public consultation should be undertaken at different levels of new settlement development. In current practice, it has been shown that only local government and the private sector have been involved in the implementation process and there has not yet been any formal public consultation. It is important to have public consultation at an early stage of new settlement development.
3. It is recommended that some form of organisation, which has knowledge and expertise of new settlement development, be

established. This might be an independent organisation, such as the Town and Country Planning Association, which can help new settlement development by publishing guidelines, organising conferences and helping to improve local skills and share some lessons from practice. It is furthermore suggested that such a body could work in partnership with bodies such as the Town and Country Planning Association in England, or other international organisations.

4. It is recommended that some kind of New Settlement Act be adopted which could be used in implementing new human settlements and setting the parameters for agreements between local authorities and developers. A New Settlement Act could be used to support the provision of services and infrastructure, such as highways, recreational facilities, education, health and affordable housing.
5. It is recommended that master plans for new human settlements should be flexible to adapt to future needs, as these plans generally set have a twenty-year time span. Furthermore master plans need to set limits to growth for the new settlements.
6. It is recommended that local standards be established rather than copying international standards in developing new settlements. These local standards can be used for future new human settlements.
7. It is recommended to take advantage of the movement of people from existing settlements to the new settlements by regenerating the existing settlements to be more sustainable. This relationship, between existing settlements and new settlements, has been missed

in the translation of ideas about new human settlements in some countries.

8. It is recommended that the national plan for new human settlements be reviewed, as it was adopted in 2005 and was very ambitious in terms of the scale of settlement development. The reason for this is that the current situation in terms of the economy has negatively impacted the development of new human settlements (i.e. following the global financial and economic crisis of the late 2000s).

8.10 Sub-objective five

This sub-objective critically reviews the data and conclusions of the research on the interpretation and implementation of the new human settlement concept in different places as an example of how planning concepts can experience a 'shift' of meaning when they are used in places that have different social and environment and economic conditions from those where a concept was originally developed. The new human settlement concept has been implemented in different places because it has the flexibility to reform to acknowledge local conditions. The concept has been borrowed and has become as international idea. In practice, selective borrowing of elements of the new settlement concept has led to a change from the original concept in line with local need and environment conditions but the core principles remain. However, the implementation of the concept is affected by the planning system and best practice shows that it is important to use policy to avoid negative impacts.

8.10 Recommendations for future research

This research used qualitative approaches to the investigation of the implementation process of the new human settlement concept. Future research can use this methodology whilst choosing other case studies. This research was focused on Europe and Asia so it would be interesting to look at other places such as Africa or South America. The outcome can then be compared with this research result. However, other philosophical perspectives can be used in future research to explore these issues, to shine a greater light on certain aspects such as problem-centered or empowerment issues.

This research interviewed the professionals involved in developing selected new human settlements which were in the ongoing implementation stage; currently there were no residents in most cases. For this reason, future research could investigate residents' opinions about their experience of living in a new human settlement, or investigate the residents' behaviour in new human settlements.

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Appendix:

No	*Date of interview*	*Name of Participant*	*Occupation*	*Organization*	*Place*	*Related case study*
1	*30 of August 2013*	*Katy Lock*	*Garden city and New Town Advocate*	*Town and Country Planning Association*	*London*	*England*
2	*22 of October 2013*	*Alan Shrimpon*	*Manager*	*Bourneville Village Trust*	*Lightmoor*	*England*
3	*23of October 2013*	*Alan Kell*	*Managing Director*	*Intelligent & Green Systems*	*London*	*England*
4	*12 of November 2013*	*Edward Durrant*	*Principal Planning Officer*	*South Cambridgeshire*	*Cambourne*	*England*
5	*13 of November 2013*	*Ben Burgess*	*Planning Projects Manager*	*Broadland District Council*	*Broadland*	*England*
9	*19 of November 2013*	*Jenny Barker*	*Eco Bicester Project Manager*	*Cherwell District Council*	*Bicester*	*England*
7	*22 of November 2014*	*Keith Williams*	*Architects*	*Founder and Director of Design*	*London*	*England*

Appendix:

No	*Date of interview*	*Name of Participant*	*Occupation*	*Organization*	*Place*	*Related case study*
8	*20 of November 2014*	*Keith Williams*	*Architects*	*Founder and Director of Design*	*London*	*England*
9	*20 of November 2013*	*Dr. Li YU*	*lecturer*	*School of Planning and Geography*	*Cardiff University*	*England*
10	*25 of November 2013*	*Joanna C. Allen*	*Partner*	*John Thompson & Partners*	*London*	*England*
11	*15 of January 2014*	*Kalile*	*- Planner*	*Saudi Arabian General Investment Authority*	*Jeddah*	*Saudi Arabia*
12	*15 of January 2014*	*Mohammed Zahrani*	*Planning Projects Manager*	*Economic cities Authority*	*Rabig*	*Saudi Arabia*
13	*15 of January 2014*	*Majed Ali*	*Planning Projects Manager*	*Economic cities Authority*	*Jeddah*	*Saudi Arabia*
14	*15 of January 2014*	*Suliman Bukari*	*Architect*	*Knowledge Economic city*	*Madina*	*Saudi Arabia*

Appendix:

No	*Date of interview*	*Name of Participant*	*Occupation*	*Organization*	*Place*	*Related case study*
15	*21of January 2014*	*Akram Salim*	*Civil Engeneer*	*Bin Laden Group*	*Jeddah*	*Saudi Arabia*
16	*21of January 2013*	*Alharthei Hilal*	*Urban Planner*	*Bin Laden Group*	*Jeddah*	*Saudi Arabia*
17	*22 of January 2013*	*Sofia Nassar*	*Planner*	*The economic city company*	*Jeddah*	*Saudi Arabia*
18	*22 of January 2014*	*Qattan*	*- Architect*	*The economic city company*	*Jeddah*	*Saudi Arabia*
19	*23 of January 2014*	*Abdulaziz Rasheed*	*Urban Planner*	*Saudi Council Engineers*	*Jeddah*	*Saudi Arabia*
20	*23 of January 2014*	*Moataz*	*Project Manager*	*Ahmad Hamd Algosaibi*	*Jeddah*	*Saudi Arabia*
21	*24 of January 2014*	*Sarif Bader*	*Project Manager*	*Saudi Aramco*	*Jeddah*	*Saudi Arabia*

Appendix:

No	*Date of interview*	*Name of Participant*	*Occupation*	*Organization*	*Place*	*Related case study*
22	*24 of November 2014*	*Algamdi*	*Regional Planner*	*Royal Commission for Jubail and Yanbu*	*Jeddah*	*Saudi Arabia*
23	*27 of November 2013*	*Fahed*	*Planner*	*Emaar the economic city company*	*Jeddah*	*Saudi Arabia*
24	*27 of November 2013*	*Abdulah Ibrahim*	*Partner*	*Rakisa Holding Company*	*Jeddah*	*Saudi Arabia*
25	*27 of January 2014*	*Ahmed Abid*	*- Architect*	*Yusuf bin Ahmed Kano*	*Jeddah*	*Saudi Arabia*
26	*28 of January 2014*	*Sultan Asahss*	*Planning Projects Manager*	*Saudi Arabian General Investment Authority*	*Jeddah*	*Saudi Arabia*
27	*28 of January 2014*	*Waleed Rasel*	*Planning Projects Manager*	*Yusuf bin Ahmed Kano*	*Jeddah*	*Saudi Arabia*
28	*29 of January 2014*	*Turkey Yousef*	*Architect*	*Emaar the economic city company*	*Jeddah*	*Saudi Arabia*

Appendix:

No	*Date of interview*	*Name of Participant*	*Occupation*	*Organization*	*Place*	*Related case study*
29	*29 of January 2014*	*Amro Kane*	*Architects*	*Emaar the economic city company*	*Jeddah*	*Saudi Arabia*
30	*30 of January 2014*	*Suhil Ahmad*	*Urban Planner*	*Saudi Council of Engineers*	*Jeddah*	*Saudi Arabia*
31	*30 of January 2014*	*Amran Naife*	*Manager*	*Emaar the economic city company*	*Jeddah*	*Saudi Arabia*
32	*2 of February 2014*	*Dahlan*	*- Planner*	*Emaar the economic city company*	*Jeddah*	*Saudi Arabia*
33	*4of February 2014*	*Adnan Nasas*	*Planning Projects Manager*	*Economic cities Authority*	*Jeddah*	*Saudi Arabia*
34	*4 of February 2014*	*Abed Atari*	*Architect*	*Economic cities Authority*	*Jeddah*	*Saudi Arabia*
35	*5 of February 2014*	*Abdul Majeed Ali*	*Architect*	*Knowledge Economic city*	*Madina*	*Saudi Arabia*

Appendix:

No	*Date of interview*	*Name of Participant*	*Occupation*	*Organization*	*Place*	*Related case study*
36	*6 of February 2014*	*Akram Salim*	*Civil Engineer*	*Bin Laden Group*	*Jeddah*	*Saudi Arabia*
37	*6 of February 2014*	*Tareg Subahi*	*Manager*	*Saudi Arabian General Investment Authority*	*Jeddah*	*Saudi Arabia*
38	*8 of February 2014*	*Abdul Matlob*	*Engineer*	*Saudi Arabian General Investment Authority*	*Jeddah*	*Saudi Arabia*
39	*8 of February 2014*	*Muhammad Hatan*	*- Landscspe*	*Saudi Arabian General Investment Authority*	*Jeddah*	*Saudi Arabia*
40	*8 of February 2014*	*Jlal Abu Talib*	*Planner*	*Saudi Arabian General Investment Authority*	*Jeddah*	*Saudi Arabia*